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(54) ELECTRONIC SETTLEMENT AUTHENTICATION  
 SYSTEM AND ELECTRONIC COMMERCE  
 SERVICE PROVIDER DEVICE

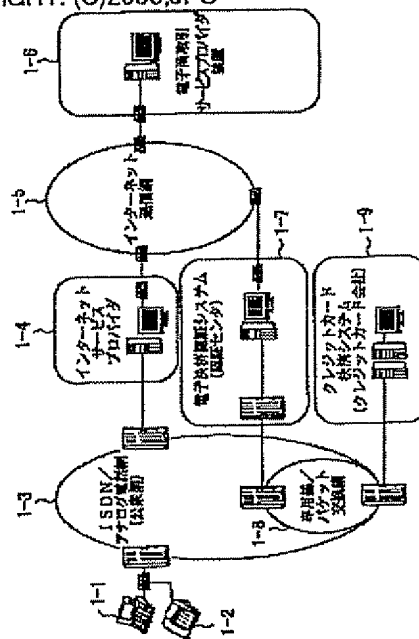
electronic commerce service provider device.

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## (57) Abstract:

**PROBLEM TO BE SOLVED:** To easily and securely carry out electronic commerce such as on-line shopping through the Internet by preventing secret information on a credit card number etc., from leaking.

**SOLUTION:** Order data on an article etc., are sent from a user terminal 1-1 to the electronic commerce service provider device 1-6 through the Internet 1-5 and the electronic commerce provider device sends those data out to an electronic settlement authentication system 1-7. The electronic settlement authentication system calls the user terminal back through a public telephone network 1-3 to receive secret information on a credit card number etc., directly from the user terminal through the public telephone network, sends the secret information to a credit card settlement system 1-9, and receives authentication result data on the credit card number etc., from the credit card settlement system and then sends the authentication result data to the



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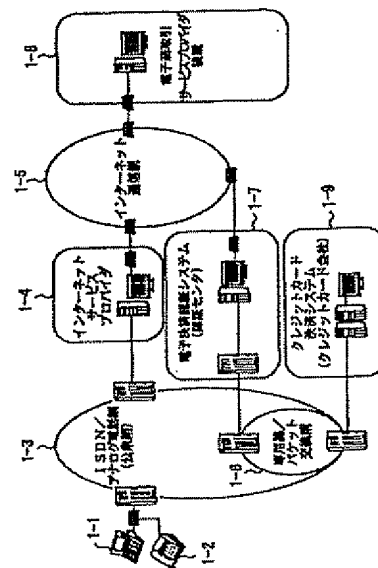
(54)【発明の名称】 電子決済認証システム及び電子商取引サービスプロバイダ装置

## (57)【要約】

【課題】 インターネットによるオンラインショッピング等の電子商取引における電子決済認証システム及び電子商取引サービスプロバイダ装置に関し、クレジットカード番号等の秘匿情報の漏洩を防ぎ、簡便且つ安全に電子商取引を行うことができるようにする。

【解決手段】 ユーザー端末1-1から電子商取引サービスプロバイダ装置1-6にインターネット1-5を介して商品等の注文データを送信し、電子商取引サービスプロバイダ装置はそれらのデータを電子決済認証システム1-7に送出し、電子決済認証システムは公衆網1-3を介してユーザー端末をコールバックし、クレジットカード番号等の秘匿情報をユーザー端末から公衆網を介して直接受信し、秘匿情報をクレジットカード決済システム1-9に送信し、クレジットカード決済システムからクレジットカード番号等の認証結果データを受信し、認証結果データを電子商取引サービスプロバイダ装置に送信する。

本発明の電子商取引サービスシステムの説明図



## 【特許請求の範囲】

【請求項1】 ユーザー端末と電子商取引サービスプロバイダ装置との間でインターネットを介して電子商取引のデータを送受し、クレジットカード決済システムにより該電子商取引の支払いを決済する電子商取引のための電子決済認証システムにおいて、

該電子決済認証システムは、ユーザー識別子を含む電子商取引のデータを前記電子商取引サービスプロバイダ装置から受信すると、該ユーザー識別子を基に公衆網を介してユーザー端末をコールバックし、電子決済のためのユーザーの秘匿情報をユーザー端末から該公衆網を介して直接受信する手段と、

該受信したユーザーの秘匿情報をクレジットカード決済システムに送信し、クレジットカード決済システムから該ユーザーの秘匿情報についての認証結果データを受信する手段と、

該認証結果データを前記電子商取引サービスプロバイダ装置に送信する手段とを備えたことを特徴とする電子決済認証システム。

【請求項2】 前記電子決済認証システムは、前記ユーザー端末とISDN回線又はアナログ電話回線の公衆網を介して情報を送受し、前記クレジットカード決済システムと専用線又は公衆データ通信網を介して情報データを送受する構成を備えたことを特徴とする請求項1記載の電子決済認証システム。

【請求項3】 前記電子決済認証システムは、該電子決済認証システムに予め登録したユーザー及び電子商取引サービスプロバイダの加入者情報を記憶する加入者データベース記憶部と、ユーザー端末と電子商取引サービスプロバイダ装置との間で送受された電子商取引の注文データを記憶するトランザクションデータベース記憶部とを備えたことを特徴とする請求項1又は2記載の電子決済認証システム。

【請求項4】 前記電子決済認証システムの加入者データベース記憶部は、各ユーザー及び各電子商取引サービスプロバイダに、それぞれ固有のユーザー識別子及び電子商取引サービスプロバイダ識別子を割り付けて記憶する構成を有し、前記電子決済認証システムは、それらの識別子をマスターキーとして前記加入者データベース記憶部より、ユーザー又は電子商取引サービスプロバイダの加入者情報を読み出す構成を有することを特徴とする請求項1乃至3いずれか1項記載の電子決済認証システム。

【請求項5】 前記電子決済認証システムのトランザクションデータベース記憶部は、個々の電子商取引の注文データにそれぞれ固有のトランザクション識別子を割り付けて記憶する構成を有し、前記電子決済認証システムは、該トランザクション識別子を前記クレジットカード決済システム及び前記電子商取引サービスプロバイダ装置に通知する手段を備えたことを特徴とする請求項1乃至4いずれか1項記載の電子決済認証システム。

至4いずれか1項記載の電子決済認証システム。

【請求項6】 前記電子決済認証システムは、電子商取引サービスプロバイダ装置から送信されたユーザー識別子を基に加入者データベース記憶部から該ユーザーの電話番号を検索し、該電話番号により公衆網を介してユーザー端末をコールバックする手段と、電子決済のためのユーザーの秘匿情報の送信を促すガイダンスを含むアナウンスメントを送出する手段と、ユーザー端末から送信された秘匿情報を受信保持する手段とを備えたことを特徴とする請求項1乃至5いずれか1項記載の電子決済認証システム。

【請求項7】 前記電子決済認証システムは、ユーザー端末が接続された回線がISDN回線であるかアナログ電話回線であるかを前記加入者データベース記憶部のデータを基に認識する手段を備え、

前記ユーザー端末をコールバックする手段は、前記ユーザー端末が接続された回線がISDN回線である場合、ユーザー端末をコールバックするに際し、前記ユーザー端末の回線が話中であつたときは、話中の終了を待って呼び出す待ち合わせ呼出し又は通話中着信呼出しを行い、前記ユーザー端末が接続された回線がアナログ電話回線である場合、前記ユーザー端末のインターネット接続の終了を待って呼び出す待ち合わせ呼出し又は通話中着信呼出しを行う構成を有することを特徴とする請求項6記載の電子決済認証システム。

【請求項8】 ユーザー端末にインターネットを介して電子商取引のための表示画面を提供し、ユーザー端末から電子商取引の注文データをユーザー識別子と共に受信する手段と、

電子決済認証システムにインターネットを介して該ユーザー識別子と電子商取引の注文データとを送信する手段と、前記電子決済認証システムから前記ユーザー識別子及び前記電子商取引についての認証結果情報を受信する手段と、

前記ユーザー端末へ該認証結果情報を前記電子商取引の注文データのトランザクション識別子とともに送信する手段とを備えたことを特徴とする電子商取引サービスプロバイダ装置。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】 本発明は、インターネットによるオンラインショッピング等の電子商取引における電子決済認証システム及び電子商取引サービスプロバイダ装置に関する。

【0002】 近年インターネットによる商用オンラインサービスが普及し、電子決済のための個人秘匿情報がインターネット上で送受信される機会が多くなりつつある。このような商用オンラインサービスによる電子商取引の利用が増加するにつれて、電子決済のために送受さ

れる個人情報情報が安全に保護され、且つ迅速で簡便な電子決済を行えるシステムの構築が要求されている。

【0003】インターネットによるオンラインショッピングやバーチャルモールショッピング等において、ユーザー側にとっては、クレジットカード番号等の秘匿情報が安全に送信され、且つ送信した秘匿情報が漏洩して悪用されるようなことがないシステムであること、また、電子商取引サービスプロバイダ側にとっては、電子商取引サービスにアクセスしたユーザーが商取引の真正の本人であり、且つそのユーザーから送信されたクレジットカード番号情報等による代金の支払いに支障がないという確証が得られるシステムであることが重要である。

【0004】

【従来の技術】インターネットによる電子商取引サービスを利用する際、ユーザーは商品等の購入時にクレジットカード番号等の秘匿情報の送信を要求されることが多い。秘匿情報の送信にあたっては送信データの暗号化技術や秘密通信技術が利用されているが、現状ではそれらの技術のみでは秘匿情報に対する安全性が決して充分であるとはいえない。

【0005】なぜなら、インターネットにおける情報発信は、必ずしも管理機関の明確でない不特定多数のサーバを経由するため、秘匿情報が盗用悪用されるおそれがある。そのため、従来はクレジットカード番号等の秘匿情報の扱いについて、例えば以下のような方策が取られていた。

【0006】その一つは、ユーザーはクレジットカード番号等の秘匿情報を、予め各々の電子商取引サービスプロバイダ側へ、インターネット及び他の通信手段により送信して登録しておき、インターネットによる電子商取引サービス利用時にはクレジットカード番号等の秘匿情報を送信することなく、電子商取引の注文データとユーザー名とを送信して電子商取引を行う方法である。

【0007】しかし、この方法ではクレジットカード番号等に変更を生じた場合、その旨を各登録先電子商取引サービスプロバイダ側へ送信して通知しなければならない。また、複数の電子商取引サービスプロバイダから商品購入等を行う場合、それぞれの電子商取引サービスプロバイダ側へ、クレジットカード番号等の秘匿情報を登録しなければならない。秘匿情報が多数の箇所に分散されて保管されるため、秘密保持に対する安全性の管理の上で好ましくない。

【0008】他の方法としては、インターネットによる電子商取引サービス利用時に、クレジットカード番号等の秘匿情報をファクシミリ画像により電子商取引サービスプロバイダ側へ送信する方法がある。しかし、この方法では、電子商取引サービスプロバイダ側のファクシミリ装置へクレジットカード番号が書き記された書面が出力され、その保管管理が不適切であったりすると、ハードコピー等が容易に行えることから秘匿情報が不正に使

用されるおそれが生じる。

【0009】

【発明が解決しようとする課題】インターネットによるオンラインショッピングサービス等の電子商取引において、簡便に商品代金の決済を済ませたい場合、ユーザーはクレジットカード番号等を送信して購入する。しかし、インターネットを経由した秘匿情報の送信には秘密保護の対策が万全でなく、またインターネットによる電子商取引サービスにおいて、電子商取引サービスプロバイダ側の手続きミスによる多重請求や他のユーザーの不当行為等による不正請求等のトラブル発生に対する電子商取引データの確認作業が煩雑なものとなっていた。

【0010】更に、ユーザーが複数の異なる電子商取引サービスプロバイダを利用する場合、従来は各電子商取引サービスプロバイダごとにクレジットカード番号等の情報を登録する必要があり、秘匿情報の一元管理ができず、事前にクレジットカード番号情報等を登録していない電子商取引サービスプロバイダからの電子商取引サービスは利用することができず不便であった。

【0011】本発明は、インターネットによる電子商取引サービスにおいて、クレジットカード番号等の秘匿情報の漏洩を防ぎ、電子商取引データの保持・確認が行え、またユーザーが予めクレジットカード番号等の秘匿情報を登録しておくことなく簡便且つ安全に電子商取引を行うことができる電子決済認証システム及び電子商取引サービスプロバイダ装置を提供することを目的とする。

【0012】

【課題を解決するための手段】本発明の電子決済認証システムは、(1)ユーザー端末と電子商取引サービスプロバイダ装置との間でインターネットを介して電子商取引のデータを送受し、クレジットカード決済システムにより該電子商取引の支払いを決済する電子商取引のための電子決済認証システムにおいて、該電子決済認証システムは、ユーザー識別子を含む電子商取引のデータを前記電子商取引サービスプロバイダ装置から受信すると、該ユーザー識別子を基に公衆網を介してユーザー端末をコールバックし、電子決済のためのユーザーの秘匿情報をユーザー端末から該公衆網を介して直接受信する手段と、該受信したユーザーの秘匿情報をクレジットカード決済システムに送信し、クレジットカード決済システムから該ユーザーの秘匿情報についての認証結果データを受信する手段と、該認証結果データを前記電子商取引サービスプロバイダ装置に送信する手段とを備えたものである。

【0013】また(2)前記電子決済認証システムは、前記ユーザー端末とISDN回線又はアナログ電話回線の公衆網を介して情報を受信し、前記クレジットカード決済システムと専用線又は公衆データ通信網を介して情報データを送受する構成を備えたものである。

【0014】また(3)前記電子決済認証システムは、該電子決済認証システムに予め登録したユーザー及び電子商取引サービスプロバイダの加入者情報を記憶する加入者データベース記憶部と、ユーザー端末と電子商取引サービスプロバイダ装置との間で送受された電子商取引の注文データを記憶するトランザクションデータベース記憶部とを備えたものである。

【0015】また(4)前記電子決済認証システムの加入者データベース記憶部は、各ユーザー及び各電子商取引サービスプロバイダに、それぞれ固有のユーザー識別子及び電子商取引サービスプロバイダ識別子を割り付けて記憶する構成を有し、前記電子決済認証システムは、それらの識別子をマスターキーとして前記加入者データベース記憶部より、ユーザー又は電子商取引サービスプロバイダの加入者情報を読み出す構成を有するものである。

【0016】また(5)前記電子決済認証システムのトランザクションデータベース記憶部は、個々の電子商取引の注文データにそれぞれ固有のトランザクション識別子を割り付けて記憶する構成を有し、前記電子決済認証システムは、該トランザクション識別子を前記クレジットカード決済システム及び前記電子商取引サービスプロバイダ装置に通知する手段を備えたものである。

【0017】また(6)前記電子決済認証システムは、電子商取引サービスプロバイダ装置から送信されたユーザー識別子を基に加入者データベース記憶部から該ユーザーの電話番号を検索し、該電話番号により公衆網を介してユーザーをコールバックする手段と、電子決済に必要なユーザーの秘匿情報の送信を促すガイダンスを含むアナウンスメントを送出する手段と、ユーザー端末から送信された秘匿情報を受信保持する手段とを備えたものである。

【0018】また(7)前記電子決済認証システムは、ユーザー端末が接続された回線がISDN回線であるかアナログ電話回線であるかを前記加入者データベース記憶部のデータを基に認識する手段を備え、前記ユーザー端末をコールバックする手段は、前記ユーザー端末が接続された回線がISDN回線である場合、ユーザー端末をコールバックするに際し、前記ユーザー端末の回線が話中であったときは、話中の終了を待って呼び出す待ち合わせ呼出し又は通話中着信呼び出しを行い、前記ユーザー端末が接続された回線がアナログ電話回線である場合、前記ユーザー端末のインターネット接続の終了を待って呼び出す待ち合わせ呼出し又は通話中着信呼び出しを行う構成を有するものである。

【0019】また本発明の電子商取引サービスプロバイダ装置は、(8)ユーザー端末にインターネットを介して電子商取引のための表示画面を提供し、ユーザー端末から電子商取引の注文データをユーザー識別子と共に受信する手段と、電子決済認証システムにインターネット

を介して該ユーザー識別子と電子商取引の注文データとを送信する手段と、前記電子決済認証システムから前記ユーザー識別子及び前記電子商取引についての認証結果情報を受信する手段と、前記ユーザー端末へ該認証結果情報を前記電子商取引の注文データのトランザクション識別子とともに送信する手段とを備えたものである。

【0020】

【発明の実施の形態】図1は本発明の電子商取引サービスシステムの説明図である。同図において、1-1はユーザーの情報機器端末、1-2は同ユーザーの電話端末、1-3はISDN又はアナログ電話網、1-4はインターネットサービスプロバイダ装置、1-5はインターネット通信網、1-6は電子商取引サービスプロバイダ装置、1-7は電子決済認証システム、1-8は専用線又はパケット交換網、1-9はクレジットカード決済システムである。

【0021】ユーザー宅の情報機器端末1-1はパーソナルコンピュータ等の情報処理装置であり、同ユーザーの電話端末1-2とともにISDN又はアナログ電話網1-3に接続される。ここで、ユーザー宅の情報機器端末1-1及び電話端末によりユーザー端末を構成する。

【0022】ユーザーの情報機器端末1-1はISDN又はアナログ電話網1-3を介してインターネットサービスプロバイダ装置1-4に接続され、インターネット通信網1-5を経由して電子商取引サービスプロバイダ装置1-6に接続し、電子商取引のためのデータを送信する。

【0023】電子商取引サービスプロバイダ装置1-6は、インターネット上で電子商取引のためのウェブページ(ホームページ)を提供し、ユーザーから送信された電子商取引のための注文データを受信すると、インターネット通信網1-5を経由して電子決済認証システム1-7に接続し、電子商取引のため認証を電子決済認証システム1-7に依頼要求する。

【0024】電子決済認証システム1-7は、複数の電子商取引サービスプロバイダ装置1-6からの各認証依頼要求に対して、ユーザーについて電子決済のための認証を一手に行う機能を備え、複数の電子商取引サービスプロバイダに対して集中的に設けられる認証センタとして機能する。

【0025】電子決済認証システム1-7は、ISDN又はアナログ電話網1-3を介してユーザーの電話端末1-2をコールバックし、クレジットカード番号等の秘匿情報をユーザーからISDN又はアナログ電話網1-3を介して受信し、また、認証センタ装置1-7は専用線又はパケット交換網1-8を介してクレジットカード決済システム1-9に接続し、ユーザーから受信したクレジットカード番号等をクレジットカード決済システム1-9に通知するとともにそのクレジットカード番号等による支払いについての問い合わせを行い、その結果を

電子商取引サービスプロバイダ装置1-6に送信する機能を有している。

【0026】クレジットカード決済システム1-9は、クレジットカード会社等に設置され、電子決済認証システム1-7から通知されたクレジットカード番号等の情報と電子商取引の金額情報とを基に、口座引落等による支払いに支障がないかをチェックし、その結果を電子決済認証システム1-7に送信する機能を有する。

【0027】このように本発明による電子決済認証は、ISDN又はアナログ電話網1-3、インターネット通信網1-5及び専用線又はパケット交換網1-8を介したデータの送受により行うが、このうち、秘匿性の高い情報の送受にはISDN又はアナログ電話網1-3及び専用線又はパケット交換網1-8を用い、秘匿性の低い情報の送受には操作の簡便なインターネット通信網1-5を用いるようにしたものである。なお、前述のパケット交換網は公衆データ通信網であってもよい。

【0028】図2は本発明の電子決済認証システムの主要部を示す図である。電子決済認証システム2-10は、ユーザー等の加入者情報を保持する加入者データベース記憶部2-1及びアナウンスメントマシン2-2を備えた交換機部2-3と、電子商取引の注文データ保持するトランザクションデータベース記憶部2-4を備えた通信端末部2-5とから構成される。

【0029】交換機部2-3はISDN又はアナログ電話網2-6を介してユーザー端末2-7をコールバックし、アナウンスメントマシン2-2により請求金額及び電子決済に必要な情報（ユーザー識別子、クレジットカード番号等）の送出を促すガイダンスを合成音声により送出し、ユーザー端末2-7からPB信号等により送信されたクレジットカード番号等の秘匿情報を含む電子決済に必要な情報を受信する機能を有する。

【0030】また、交換機部2-3は受信したクレジットカード番号等に関して、専用線又はパケット交換網2-8を介してクレジットカード決済システム2-9に通知及び問い合わせを行い、その回答結果を受信して通信端末部2-5に送出する機能を有する。

【0031】通信端末部2-5は、交換機部2-3と接続され、クレジットカード決済システム2-9からの回答結果を交換機部2-3から受信すると、インターネット通信網2-11を介して電子商取引サービスプロバイダ(CSP)2-12に送信する。

【0032】このように、交換機部2-3はISDN又はアナログ電話網2-6及び専用線又はパケット交換網2-8へ接続され、秘匿性の高い情報をISDN若しくはアナログ電話網2-6又は専用線若しくはパケット交換網2-8を介して送受する。

【0033】通信端末部2-5は、インターネット通信網2-11へ接続され、秘匿性の低い情報はインターネット通信網2-11を介して送受する。この理由は、前

述したとおりインターネット通信は不特定多数のインターネットサービスプロバイダを経由するため、通信情報の秘密保持に対する安全管理が充分なものとはいえないためである。

【0034】一方、公衆網であるISDN、アナログ電話網、パケット交換網又は専用線のみを介した通信は、直接通信相手の送受信装置と接続されて情報が送受され、通信相手以外の第三者が介入することがないので、通信情報が流出する危険性が少なく安全度が高い。

【0035】したがって、電子商取引サービスにおいて、秘密保持厳守が要求される通信情報を取り扱う唯一又は少数の限られた認証センタを設置し、該認証センタに設備された電子決済認証システムにより、秘匿情報を一元的に集中管理する構成とし、且つ、該電子決済認証システムは、送受する情報の秘匿性に依じて通信網を使い分ける構成とすることにより、秘密情報の分散化と盗聴を防ぎ、秘密情報に対する信頼性の高いシステムを構築することができる。

【0036】図3は本発明の電子決済認証システムの機能ブロック図である。同図において、3-1は交換機部、3-11は該交換機部のCPU、3-12は交換機部のデータ通信部、3-13は交換機部の入出力部、3-14はサービス制御部、3-15は加入者データベース記憶部である。

【0037】また、3-2は通信端末部、3-21は該通信端末部のCPU、3-22は通信端末部のデータ通信部、3-23は通信端末部の入出力部、3-24はWWW(World Wide Web)データベース記憶部、3-25は注文データを保持するトランザクションデータベース記憶部である。

【0038】交換機部のデータ通信部3-12は、ISDN又はアナログ電話網を介してユーザーの電話端末をコールバックし、クレジットカード番号等の情報を受信し、受信したクレジットカード番号等の情報について専用線又はパケット交換網を介してクレジットカード決済システムに通知及び問い合わせを行う。交換機部の入出力部3-13は、通信端末部の入出力部3-23と相互に接続され、交換機部3-1と通信端末部3-2との間のデータ通信及びそのためのデータ変換機能を有する。

【0039】通信端末部のデータ通信部3-22はインターネット通信網に接続され、電子商取引サービスプロバイダからインターネットによる電子商取引の注文データを受信し、また電子商取引サービスプロバイダにクレジットカード決済システムからの問い合わせ結果情報等を送信する。

【0040】交換機部の加入者データベース記憶部3-15は、予め登録要求のあった各ユーザー、電子商取引サービスプロバイダ及びクレジットカード会社についての加入者情報をデータベースとして記憶する。したがって、電子商取引を要望するユーザーは、この電子決済認

証システムの加入者データベース記憶部3-15に対してのみ加入者情報を予め登録しておく必要があるが、それは電子決済認証システムからのコールバックを適正に行うためと、電子商取引のトランザクションデータを管理するための最少限の情報であり、クレジットカード番号等の秘匿情報を予め登録しておくこと必要はない。

【0041】通信端末部のWWWデータベース記憶部3-24は、インターネットのウェブページ用のデータベースを記憶し、またトランザクションデータベース記憶部3-25は、ユーザーと電子商取引サービスプロバイダとの間で送受された注文データ等のトランザクションデータを保持する。

【0042】図4は本発明の電子決済認証システムのデータベース記憶部の内容を示す図である。図の(A)は加入者データベース、図の(B)はユーザーと電子商取引サービスプロバイダとの間のトランザクションデータベースである。

【0043】図の(A)の加入者データベースは、各ユーザー、電子商取引サービスプロバイダ及びクレジットカード会社ごとに、その加入者情報を一覧表の形式で記憶したものである。ユーザーについては、ユーザー識別子(ID)、氏名、住所、電話番号、サービス状態等が記憶され、電子商取引サービスプロバイダについては、電子商取引サービスプロバイダ識別子(サービスID)、会社名、住所、電話番号、サービス状態等が記憶され、クレジットカード会社については、クレジットカード会社識別子(クレジットID)、会社名、その他図示を省略した住所、電話番号、サービス状態等の加入者情報を記憶する。

【0044】更に、加入者データベースは、各ユーザーの回線種別及びサービスクラス(例えば、ISDN回線かアナログ電話回線か、又通話中着信(コールウェイティング)サービスが可能な加入者回線か否か等のデータ)を記憶保持する。

【0045】図の(B)のトランザクションデータベースは、トランザクション識別子(ID)、認証結果、クレジットカード会社識別子(クレジットID)、ユーザー識別子(ID)、電子商取引サービスプロバイダ識別子(サービスID)、商品名、個数、価格等を一覧表の形式で記憶する。

【0046】図5乃至図7は本発明の電子商取引サービスの通信手順の説明図である。先ず図5の①に示すようにユーザーは情報機器端末5-1を用いてインターネット接続により、ユーザーID、商品名、個数等の購入商品に関する注文データを、インターネットサービスプロバイダ(ISP)を介し、電子商取引サービスプロバイダ(CSP)のWWWサーバー5-2のデータベース部に送信する。

【0047】次に図6の②に示すように電子商取引サービスプロバイダのWWWサーバー6-1は、サービスI

D、ユーザーID、商品名、個数、価格等のデータを、インターネット接続により電子決済認証システム6-2のデータベース部に送信する。

【0048】電子決済認証システム6-2(図5においては5-3)は、ユーザーIDを基に加入者データベースからその回線種別及びサービスクラスを検索し、図5の③に示すようにユーザーの電話端末5-4を公衆網接続によりコールバックし、ユーザーは図5の③'に示すように電話端末5-4からユーザーIDとクレジットカード番号を送信する。

【0049】ここで、ユーザー端末5-1、5-4がISDN回線により接続されている場合は、ユーザーは2回線を独立に使用することができるので、前述の①のインターネット接続回線を切断することなく接続を維持したまま、もう一つの回線に対する電子決済認証システム5-3からのコールバックに対し電話端末5-4により応答し、その後の認証サービスを受けることができる。

【0050】ユーザー端末5-1、5-4がアナログ電話回線により接続されている場合は、ユーザーは前述の①のインターネット接続を一旦切断し、電子決済認証システム5-3は該インターネット接続の切断を待って、ユーザーの電話端末5-4を呼び出す待ち合わせ呼出しを行う。

【0051】アナログ電話回線のユーザーは電子決済認証システム5-3からの待ち合わせ呼出しに回答し、電話端末5-4からユーザーIDとクレジットカード番号を送信するが、その後の認証サービスは、インターネットを介した電子メールにより受けることとなる。

【0052】また、ユーザー端末5-1、5-4が接続された回線がISDN回線である場合でも、前述したもう一つの回線が話中であつたときは、電子決済認証システム5-3は前記①のインターネット接続の回線又はもう一つの回線の切断を待って、ユーザーの電話端末5-4をコールバックする待ち合わせ呼出しを行う。

【0053】なお、ユーザーが通話中着信呼び出し(コールウェイティング)を受けられるサービスクラスである場合は、電子決済認証システム5-3は、前述の待ち合わせ呼出しの代わりに通話中着信呼び出しを行い、前述の①のインターネット接続回線を切断することなく維持したまま、電子決済認証システム5-3からのコールバックに回答し、その後の認証サービスを受ける構成とすることができる。

【0054】次に図7の④に示すように電子決済認証システム7-1は、専用線接続又はパケット交換網を介してクレジットカード決済システム7-2に、トランザクションID、ユーザーID、クレジットカード番号、商品名、個数等のデータを送信する。

【0055】クレジットカード決済システム7-2は、図7の⑤に示すようにサービスID、ユーザーID、認証結果等のデータを専用線接続又はパケット交換網を介

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して電子決済認証システム7-1に送信する。

【0056】次に図6の⑥に示すように電子決済認証システム6-2は、電子商取引サービスプロバイダのWWWサーバー6-1に、トランザクションID、ユーザーID、認証結果、クレジットカード会社ID等のデータをインターネット接続を介して送信する。なお、これと同時に電子決済認証システム6-2（図5においては5-3）は、図5の⑥'に示すようにユーザーの電話端末5-4に公衆網を介して認証結果を音声によりアナウンスするようにしてもよい。

【0057】最後に図5の⑦に示すように、電子商取引サービスプロバイダのWWWサーバー5-2からインターネットを介してトランザクションIDとともに電子商取引の注文データの明細情報及び領収証を発行する。したがって、ユーザーは直ちにWWWブラウザの画面上で電子商取引の認証結果を含む明細内容を確認することができる。

【0058】次に図8及び図9とともに本発明の電子決済認証システム及び電子商取引サービスプロバイダ装置の動作フローを説明する。図8は本発明の電子商取引サービスプロバイダ装置の動作のフローチャートである。また図9は本発明の電子決済認証システムの動作のフローチャートである。

【0059】電子商取引サービスプロバイダ装置は図8に示すステップ8-1において、インターネットの電子商取引サービスの開始状態となると、ステップ8-2において、ウェブサーバーにより商品購入支援画面を表示し、ステップ8-3において、ユーザーからのユーザーID、電話番号、希望商品名等の電子商取引の基本情報入力を待ち、該基本情報が入力されると、ステップ8-4において、電子決済認証システムに基本情報を送信する。

【0060】電子決済認証システムは図9に示すステップ9-1において基本情報を受信すると、ステップ9-2において該ユーザーIDが加入者データベース記憶部に存在するか否かを調べ、存在すればステップ9-3において該ユーザーIDの電話番号を検索し、ステップ9-4において該ユーザーの回線はISDN回線かアナログ電話回線かを調べ、ISDN回線であればステップ9-5において登録電話番号によりコールバックする。

【0061】また、ユーザーの回線がアナログ電話回線であればステップ9-6において話中の終了を待って呼び出す待ち合わせ呼び出し又は通話中着信（コールウェイティング）呼出しを行う。一方、ISDN回線のユーザーに対して前述のステップ9-5においてコールバックした際に、話中（ビジー）であったときは、ステップ9-6において同様に話中の終了を待って呼び出す待ち合わせ呼び出し又は通話中着信（コールウェイティング）呼出しを行う。

【0062】ステップ9-7においてコールバックに対

するユーザーの応答を検出すると、ステップ9-8において音声によるガイダンスをアナウンスし、ステップ9-9においてクレジットカード番号等の秘匿情報の入力を待つ。クレジットカード番号等の秘匿情報が入力されると、ステップ9-10においてクレジットカード番号等の秘匿情報とトランザクションIDとをクレジットカード決済システム（クレジット会社）へ送信し、クレジットカード決済システムからその認証結果を受信する。

【0063】クレジットカード決済システムから認証結果を受信すると、ステップ9-11において、電子商取引サービスプロバイダ装置にトランザクションID及びクレジットカード番号の認証結果を送信する。なお、前述のステップ9-2においてユーザーIDが存在しなかった場合は、ステップ9-12において受付内容を拒否するメッセージを生成し、ステップ9-11によりそのメッセージを電子商取引サービスプロバイダ装置に送信する。

【0064】電子商取引サービスプロバイダ装置が電子決済認証システムから認証結果を受信すると、図8に示すステップ8-5において認証結果の正常性を判定し、正常であればステップ8-6においてユーザー端末に対し、認証結果を示すクレジットカード認証済み及び領収証発行の画面表示とトランザクションIDの画面を表示して終了する。

【0065】また、前述のステップ8-5の判定において認証結果が不正常であった場合は、ステップ8-7においてクレジットカード認証不可の画面を表示し、ステップ8-8において前述の開始ステップ8-1に戻る。

【0066】図10は本発明の電子商取引サービスの信号送受のシーケンスチャートである。同図において、LSはユーザーを収容している加入者交換機、ISPはインターネットサービスプロバイダ、CSPは電子商取引サービスプロバイダである。

【0067】ユーザーとインターネットサービスプロバイダ（ISP）との間、及び電子決済認証システムを備えた認証センタとユーザーとの間には、加入者交換機（LS）を介し、公衆網であるISDN回線又はアナログ電話回線により接続される。

【0068】インターネットサービスプロバイダ（ISP）と電子商取引サービスプロバイダ（CSP）の間はインターネットにより接続され、認証センタとクレジットカード決済システムを備えたクレジットカード会社との間には専用線又はパケット交換網により接続される。

【0069】ユーザーは加入者交換機（LS）にインターネットサービスプロバイダ（ISP）への呼を発し（10-1）、ユーザーとインターネットサービスプロバイダ（ISP）とが接続され（10-2）、該ユーザーとインターネットサービスプロバイダ（ISP）を経由してユーザーと電子商取引サービスプロバイダ（CSP）とが接続される（10-3）。



【0070】ユーザーは、ユーザーID及び商品名等の商取引情報を電子商取引サービスプロバイダ(CSP)に送信し(10-4)、電子商取引サービスプロバイダ(CSP)は、それらの情報を認証センタに送信する(10-5)。

【0071】認証センタはユーザーIDからユーザーの電話番号(TEL#)をデータベースにより調べ(10-6)、電子商取引サービスプロバイダ(CSP)にトランザクションIDを送信する(10-7)。

【0072】電子商取引サービスプロバイダ(CSP)は該トランザクションIDをユーザーに送信し(10-8)、また認証センタは加入者交換機(LS)に該ユーザーをコールバックするために発呼する(10-9)。

【0073】認証センタとユーザーとの間は公衆網を介して接続され(10-10)、認証センタはクレジットカード情報等の秘匿情報を入力するようにアナウンスを送出し(10-11)、ユーザーはトランザクションIDとユーザーIDとクレジットカード情報等の秘匿情報を電話端末により入力する(10-12)。

【0074】認証センタは、電話端末により入力された秘匿情報をデータベースに一時的に登録し(10-13)、ユーザーとの間の公衆網を介した接続を切断する(10-14)。認証センタは更に電話端末により入力されたクレジットカード情報等の秘匿情報をクレジットカード会社に送信して問い合わせ(10-15)、クレジットカード会社は、該クレジットカード情報等の認証結果を認証センタに送信する(10-16)。

【0075】認証センタは該認証結果を電子商取引サービスプロバイダ(CSP)に送信し(10-17)、電子商取引サービスプロバイダ(CSP)は該認証結果を基にクレジットカード認証済み確認証及び領収証をトランザクションIDとともに送信し(10-18)、ユーザーはそれを受けてログアウトし、インターネットサービスプロバイダ(ISP)との接続の切断を要求する(10-19)。

【0076】加入者交換機(LS)はユーザーからの切断要求により公衆網を介した接続を切断する(10-20)。電子商取引サービスプロバイダ(CSP)は該電子商取引による商品代金をクレジットカード会社に請求し、クレジットカード会社はその代金をユーザーに請求することとなる。

【0077】

【発明の効果】以上説明したように、本発明によれば、クレジットカード番号等の秘匿情報をユーザーから電子決済認証システムにのみ公衆網を介して直接送信し、該電子決済認証システムは該クレジットカード番号等の秘匿情報をクレジットカード決済システムに専用線等により直接問い合わせて一元的に集中管理することにより、クレジットカード情報等の秘匿情報がインターネット上で送受されず、秘匿情報の流出等に対する管理上の安全

性を向上させることができ、また、ユーザーはクレジットカード情報等を各電子商取引サービスプロバイダに予め登録しておく必要がないため、簡便な操作により即時にオンラインショッピング等電子商取引サービスを利用することができる利点がある。

【0078】更に、電子決済認証システムは、電子商取引サービス利用者をデータベース記憶部に記憶された加入者情報を基に呼び返すことにより本人の同定を行うため、電子商取引サービスプロバイダ及びユーザー側に、本人同定のための特別な認証装置を必要せず、簡易な構成により本人の同定を行うことができ、ユーザーの不当行為等による料金の不正請求等のトラブル発生を防ぐことができる。

【0079】電子商取引サービスプロバイダ装置は、電子決済認証システムからユーザーのクレジットカードの有効性が通知されるため、ユーザーのクレジットカード情報の保持、管理を行う必要がなく、簡易にシステムを構成することができる。

【0080】ユーザーと電子商取引サービスプロバイダとの間で交わされた電子商取引に関するトランザクションデータを、電子決済認証システムにおいて識別子を付して管理することにより、電子商取引情報及び秘匿情報の送受信の一連の通信データを、該電子決済認証システムにおいて一元的に管理することができ、誤請求等のトラブルの発生時の確認作業が容易となり、電子商取引サービス信頼性を向上させることができる。

【図面の簡単な説明】

【図1】本発明の電子商取引サービスシステムの説明図である。

【図2】本発明の電子決済認証システムの主要部を示す図である。

【図3】本発明の電子決済認証システムの機能ブロック図である。

【図4】本発明の電子決済認証システムのデータベース記憶部の内容を示す図である。

【図5】本発明の電子商取引サービスの通信手順の説明図である。

【図6】本発明の電子商取引サービスの通信手順の説明図である。

【図7】本発明の電子商取引サービスの通信手順の説明図である。

【図8】本発明の電子商取引サービスプロバイダ装置の動作のフローチャートである。

【図9】本発明の電子決済認証システムの動作のフローチャートである。

【図10】本発明の電子商取引サービスの信号送受のシーケンスチャートである。

【符号の説明】

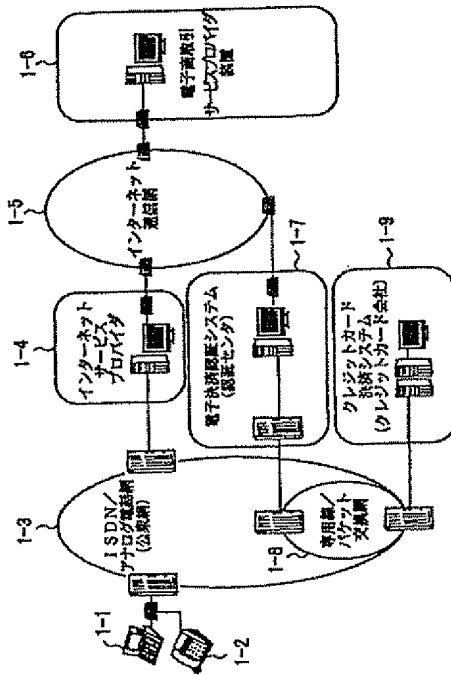
1-1 ユーザーの情報機器端末

1-2 同ユーザーの電話端末

- 1-3 ISDN又はアナログ電話網
- 1-4 インターネットサービスプロバイダ装置
- 1-5 インターネット通信網
- 1-6 電子商取引サービスプロバイダ装置

【図1】

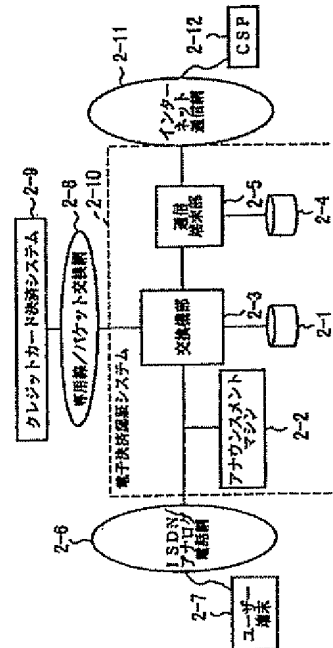
本発明の電子商取引サービスシステムの説明図



- 1-7 電子決済認証システム
- 1-8 専用線又はパケット交換網
- 1-9 クレジットカード決済システム

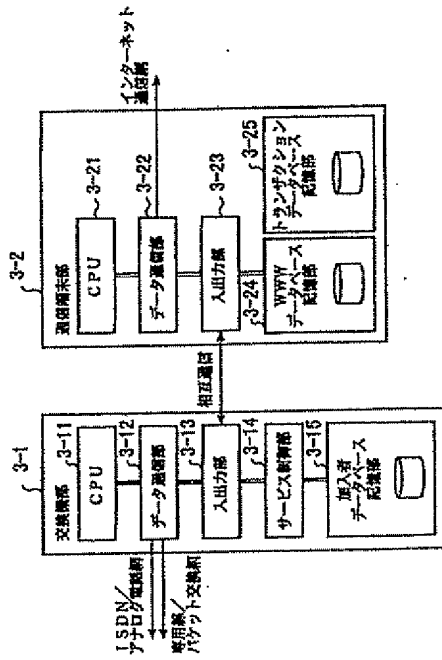
【図2】

本発明の電子決済認証システムの主要部を示す図



【図3】

本発明の電子決済認証システムの機能ブロック図



【図4】

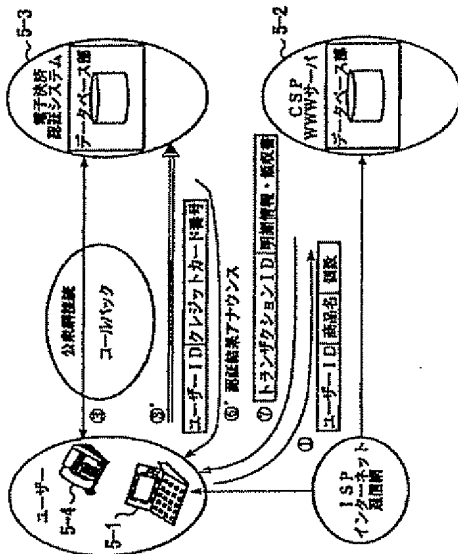
本発明の電子決済認証システムのデータベース記憶部の内容を示す図

ユーザ	ユーザID	氏名	住所	電話番号	サービス状態
・電子決済引サービスプロバイダ	AA0001	Taro xxx	Tokyo xxx	03-333-xxxx	In-service
	AA0002	Hanako xxx	Tokyo xxx	044-444-xxxx	Out-of-service
	BB0001	John xxx	Kanagawa xxx	055-555-xxxx	In-service
・クレジットカード会社	Z0001	ABC corporation	Tokyo xxx	022-222-xxxx	In-service
	Z0002	DEF Shop	Iwate xxx	055-444-xxxx	In-service
	Z0003	GHI Inc.	Osaka xxx	027-777-xxxx	Out-of-service
クレジットカードID	A	max corporation			
	B	Max Card			
	C	max Credit			

トランザクションID	認証結果	クレジットID	ユーザID	サービスID	商品名	回数	残高
0123456789123	Valid	A	AA0001	Z0001	AE-001-PBA	1	50,150
0123456789124	Invalid	B	AA0002	Z0005	EC01-55-AA	4	1,015
0123456789125	Valid	A	BB0003	Z0001	AE-002-PBA	2	5,500

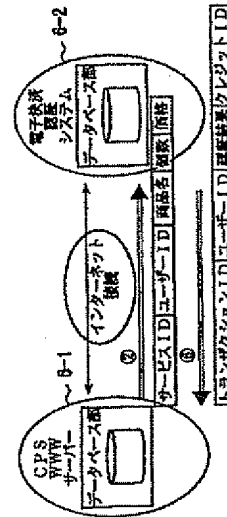
【図5】

本発明の電子商取引サービスの通信手順の説明図



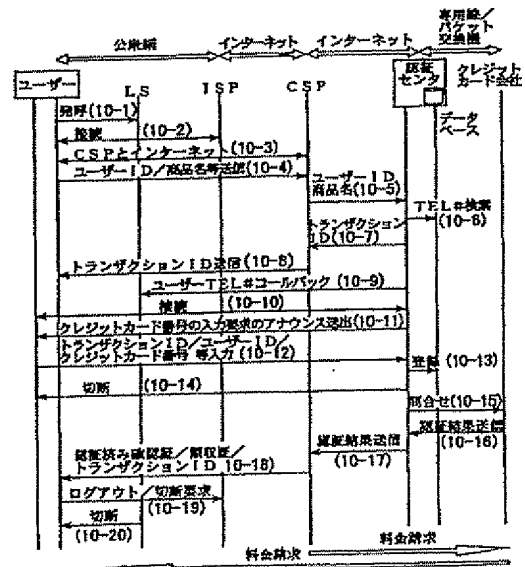
【図6】

本発明の電子商取引サービスの通信手順の説明図



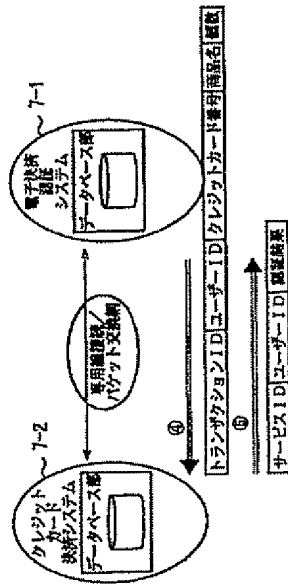
【図10】

本発明の電子取引サービスの信号受信のシーケンスチャート



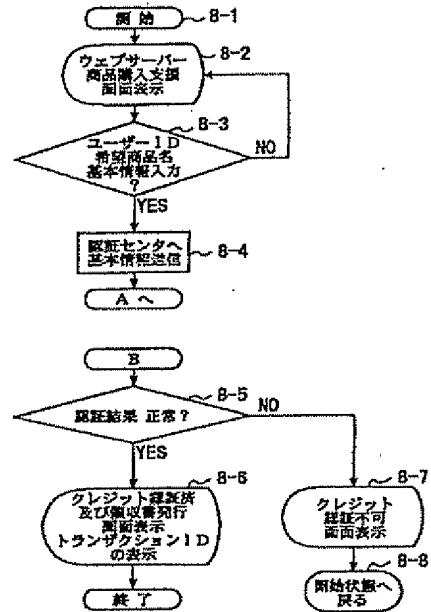
【図7】

本発明の電子商取引サービスの通信手順の説明図



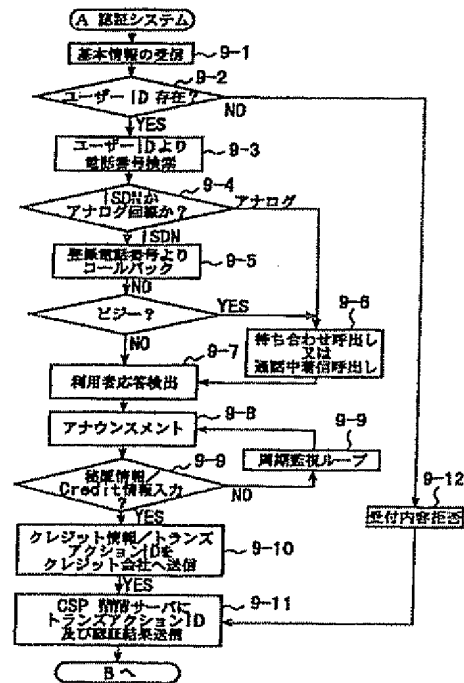
【図8】

本発明の電子商取引サービスプロバイダ装置の動作のフローチャート



【図9】

本発明の電子決済認証システムの動作のフローチャート



フロントページの続き

(51)Int.Cl. 7

H04M 3/42

識別記号

FI

H04L 11/20

キーワード(参考)

101Z

JAPANESE [JP,2000-076336,A]

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CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE  
INVENTION TECHNICAL PROBLEM MEANS DESCRIPTION OF DRAWINGS DRAWINGS

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[Translation done.]



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CLAIMS

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[Claim(s)]

[Claim 1] Send and receive data of electronic commerce technology via the Internet between a user terminal and an electronic-commerce-technology service provider device, In an electronic banking authentication system for electronic commerce technology which settles payment of this electronic commerce technology by a credit card transaction system, this electronic banking authentication system, If data of electronic commerce technology containing a user identifier is received from said electronic-commerce-technology service provider device, A means which calls back a user terminal via a public network based on this user identifier, and carries out direct reception of the secrecy information of a user for electronic banking via this public network from a user terminal, A means to transmit secrecy information of a this user who received to a credit card transaction system, and to receive authentication result data about this user's secrecy information from a credit card transaction system, An electronic banking authentication system provided with a means to transmit this authentication result data to said electronic-commerce-technology service provider device.

[Claim 2] Said electronic banking authentication system sends and receives information via a public network of said user terminal, an ISDN circuit, or an analog telephone line, The electronic banking authentication system according to claim 1 provided with composition which sends and receives information data via said credit card transaction system, a dedicated line, or a digital data exchange.

[Claim 3] The electronic banking authentication system comprising according to claim 1 or 2: A subscriber database storage parts store which memorizes subscriber information of a user who registered said electronic banking authentication system into this electronic banking authentication system beforehand, and an electronic-commerce-technology service provider. A transaction database storage parts store which memorizes order data of electronic commerce technology sent and received between a user terminal and an electronic-commerce-technology service provider device.

[Claim 4] A subscriber database storage parts store of said electronic banking authentication system, It has the composition which assigns and memorizes a respectively peculiar user identifier and an electronic-commerce-technology service provider identifier to each user and each electronic-commerce-technology service provider, An electronic banking authentication system of claim 1 thru/or 3, wherein said electronic banking authentication system has the composition which reads subscriber information of a user or an electronic-commerce-technology service provider from said subscriber database storage parts store by using those identifiers as a master key given in any 1 paragraph.

[Claim 5] An electronic banking authentication system of claim 1 thru/or 4 given [ characterized by comprising the following ] in any 1 paragraph.  
Composition which a transaction database storage parts store of said electronic banking authentication system assigns a transaction identifier respectively peculiar to order data of each electronic commerce technology, and is memorized.

A means by which said electronic banking authentication system notifies this transaction

identifier to said credit card transaction system and said electronic-commerce-technology service provider device.

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[Claim 6]An electronic banking authentication system comprising of claim 1 thru/or 5 given in any 1 paragraph:

A means for said electronic banking authentication system to search this user's telephone number from a subscriber database storage parts store based on a user identifier transmitted from an electronic-commerce-technology service provider device, and to call back a user terminal via a public network by this telephone number.

A means to send out an announcement including guidance which stimulates transmission of secrecy information of a user for electronic banking.

A means which carries out reception maintenance of the secrecy information transmitted from a user terminal.

[Claim 7]Said electronic banking authentication system is provided with a means to recognize whether a circuit to which a user terminal was connected is an ISDN circuit, or it is an analog telephone line based on data of said subscriber database storage parts store, A means to call back said user terminal, When a circuit to which said user terminal was connected is an ISDN circuit, face a user terminal calling back, and when a circuit of said user terminal is busy, A queuing call or a call waiting call which waits for and calls a busy end is performed, The electronic banking authentication system according to claim 6 having the composition which performs a queuing call or a call waiting call which waits for and calls an end of an Internet connectivity of said user terminal when a circuit to which said user terminal was connected is an analog telephone line.

[Claim 8]An electronic-commerce-technology service provider device comprising:

A means to provide a user terminal with a display screen for electronic commerce technology via the Internet, and to receive order data of electronic commerce technology with a user identifier from a user terminal.

A means to transmit this user identifier and order data of electronic commerce technology to an electronic banking authentication system via the Internet.

A means to receive said user identifier and authentication result information about said electronic commerce technology from said electronic banking authentication system.

A means to transmit this authentication result information to said user terminal with a transaction identifier of order data of said electronic commerce technology.

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[Translation done.]

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the electronic banking authentication system and electronic-commerce-technology service provider devices in electronic commerce technology, such as on-line shopping by the Internet.

[0002]The commercial on line service by the Internet spreads in recent years, and the opportunity for the individual secrecy information for electronic banking to be transmitted and received on the Internet is increasing. The individual secrecy information sent and received for electronic banking is protected safely, and construction of the system which can perform quick and simple electronic banking is demanded as use of the electronic commerce technology by such a commercial on line service increases.

[0003]In on-line shopping, virtual Mall shopping, etc. by the Internet, for the user side, It is a system by which the secrecy information which secrecy information, including a credit card number etc., was safely transmitted, and was transmitted is not misused by revealing. For the electronic-commerce-technology service provider side, It is important that the user who accessed electronic-commerce-technology service is the genuine person himself/herself of a commercial transaction, and it is a system by which the corroboration that there is no trouble in the payment of the price by the credit card number information etc. which were transmitted by the user is obtained.

[0004]

[Description of the Prior Art]When using the electronic-commerce-technology service by the Internet, transmission of secrecy information, including a credit card number etc., is required of a user in many cases at the time of the purchase of goods etc. Although the encoding technology and secret communication art of send data are used in transmission of secrecy information, under the present circumstances, the safety to secrecy information can never say that it is enough only with those art.

[0005]Because, since the information dispatch in the Internet goes via many and unspecified servers in which control machine Seki is not necessarily clear, there is a possibility that the surreptitious use improper use of the secrecy information may be carried out. Therefore, the following policies were conventionally taken about the treatment of secrecy information, including a credit card number etc., for example.

[0006]A user beforehand secrecy information, including a credit card number etc., one of them to each electronic-commerce-technology service provider side. It is the method of transmitting the order data and the user name of electronic commerce technology, and performing electronic commerce technology, without transmitting by the Internet and other means of communication, registering, and transmitting secrecy information, including a credit card number etc., at the time of the electronic-commerce-technology service use by the Internet.

[0007]However, by this method, when change is produced in a credit card number etc., that must be transmitted and notified to each registration destination electronic-commerce-technology service provider side. When merchandise purchase etc. are performed from two or more electronic-commerce-technology service providers, Since secrecy information, including a credit

card number etc., must be registered, many parts distribute and secrecy information is kept to each electronic-commerce-technology service provider side, it is not desirable after the safety to maintenance of secret manages.

[0008] Other methods include the method of transmitting secrecy information, including a credit card number etc., to the electronic-commerce-technology service provider side with a facsimile image at the time of the electronic-commerce-technology service use by the Internet. However, in this method, the document in which the credit card number was written down is outputted to the facsimile machine by the side of an electronic-commerce-technology service provider, and if that storage management is unsuitable, since a hard copy etc. can be performed easily, a possibility that secrecy information may be used unjustly will arise.

[0009]

[Problem(s) to be Solved by the Invention] In electronic commerce technology, such as on-line shopping service by the Internet, a user transmits and purchases a credit card number etc. to finish settlement of a commodity price simple. However, in electronic-commerce-technology service to transmission of the secrecy information which went via the Internet, the measure against security is not thoroughgoing, and according to the Internet, The confirmation work of the electronic commerce data to trouble occurrences, such as an unjust claim by the multiplex claim by the procedure mistake by the side of an electronic-commerce-technology service provider, other users' wrongful act, etc., became complicated.

[0010] When a user uses several different electronic-commerce-technology service providers, It is necessary to register information, including a credit card number etc., for every electronic-commerce-technology service provider conventionally. The electronic-commerce-technology service from the electronic-commerce-technology service provider which unified management of secrecy information cannot be performed and has not registered credit card number information etc. a priori could not be used, but was inconvenience.

[0011] In the electronic-commerce-technology service by the Internet, this invention prevents disclosure of secrecy information, including a credit card number etc., It aims at providing the electronic banking authentication system which can perform electronic commerce technology simple and safely without being able to perform maintenance and a check of electronic commerce data, and the user registering secrecy information, including a credit card number etc., beforehand, and an electronic-commerce-technology service provider device.

[0012]

[Means for Solving the Problem] An electronic banking authentication system of this invention sends and receives data of electronic commerce technology via the Internet between (1) user terminal and an electronic-commerce-technology service provider device, In an electronic banking authentication system for electronic commerce technology which settles payment of this electronic commerce technology by a credit card transaction system, this electronic banking authentication system, If data of electronic commerce technology containing a user identifier is received from said electronic-commerce-technology service provider device, A means which calls back a user terminal via a public network based on this user identifier, and carries out direct reception of the secrecy information of a user for electronic banking via this public network from a user terminal, A means to transmit secrecy information of a this user who received to a credit card transaction system, and to receive authentication result data about this user's secrecy information from a credit card transaction system, It has a means to transmit this authentication result data to said electronic-commerce-technology service provider device.

[0013] (2) — said electronic banking authentication system is provided with composition which sends and receives information via a public network of said user terminal, an ISDN circuit, or an analog telephone line, and sends and receives information data via said credit card transaction system, a dedicated line, or a digital data exchange.

[0014] (3) — said electronic banking authentication system with a subscriber database storage parts store which memorizes subscriber information of a user who registered with this electronic banking authentication system beforehand, and an electronic-commerce-technology service provider. It has a transaction database storage parts store which memorizes order data of electronic commerce technology sent and received between a user terminal and an electronic-

commerce-technology service provider device.

[0015](4) — a subscriber database storage parts store of said electronic banking authentication system, It has the composition which assigns and memorizes a respectively peculiar user identifier and an electronic-commerce-technology service provider identifier to each user and each electronic-commerce-technology service provider, Said electronic banking authentication system has the composition which reads subscriber information of a user or an electronic-commerce-technology service provider from said subscriber database storage parts store by using those identifiers as a master key.

[0016](5) — a transaction database storage parts store of said electronic banking authentication system, Have the composition which assigns and memorizes a transaction identifier respectively peculiar to order data of each electronic commerce technology, and said electronic banking authentication system, It has a means to notify this transaction identifier to said credit card transaction system and said electronic-commerce-technology service provider device.

[0017](6) — said electronic banking authentication system this user's telephone number from a subscriber database storage parts store based on a user identifier transmitted from an electronic-commerce-technology service provider device, [ search and ] It has a means to send out an announcement including a means to call back a user via a public network by this telephone number, and guidance which stimulates transmission of secrecy information of a user required for electronic banking, and a means which carries out reception maintenance of the secrecy information transmitted from a user terminal.

[0018](7) — said electronic banking authentication system a means to recognize whether a circuit to which a user terminal was connected is an ISDN circuit, or it is an analog telephone line based on data of said subscriber database storage parts store, [ provide with and ] A means to call back said user terminal, When a circuit to which said user terminal was connected is an ISDN circuit, face a user terminal calling back, and when a circuit of said user terminal is busy, A queuing call or a call waiting call which waits for and calls a busy end is performed, When a circuit to which said user terminal was connected is an analog telephone line, it has the composition which performs a queuing call or a call waiting call which waits for and calls an end of an Internet connectivity of said user terminal.

[0019]An electronic-commerce-technology service provider device of this invention is characterized by comprising:

(8) A means to provide a user terminal with a display screen for electronic commerce technology via the Internet, and to receive order data of electronic commerce technology with a user identifier from a user terminal.

A means to transmit this user identifier and order data of electronic commerce technology to an electronic banking authentication system via the Internet.

A means to receive said user identifier and authentication result information about said electronic commerce technology from said electronic banking authentication system.

A means to transmit a transaction identifier of order data of said electronic commerce technology for this authentication result information to said user terminal.

[0020]

[Embodiment of the Invention]Drawing 1 is an explanatory view of the electronic-commerce-technology service system of this invention. In the figure, a user's information-machines-and-equipment terminal and 1-2 1-1 The user's telephone terminal, ISDN or an analog telephone network, and 1-4 1-3 An Internet Service Provider device, As for an electronic-commerce-technology service provider device and 1-7, 1-5 is [ a dedicated line or a packet exchange network, and 1-9 ] credit card transaction systems an electronic banking authentication system and 1-8 an Internet communication network and 1-6.

[0021]The information-machines-and-equipment terminals 1-1 of a user's house are information processors, such as a personal computer, and are connected to ISDN or the analog telephone network 1-3 with the user's telephone terminal 1-2. Here, the information-machines-and-equipment terminal 1-1 and telephone terminal of a user's house constitute a user terminal.

[0022]It is connected to the Internet Service Provider device 1-4 via ISDN or the analog

telephone network 1-3, and connects with the electronic-commerce-technology service provider device 1-6 via Internet communication network 1-5, and a user's information-machines-and-equipment terminal 1-1 transmits the data for electronic commerce technology.

[0023]The electronic-commerce-technology service provider device 1-6, If the order data for the electronic commerce technology which provided the web page (homepage) for electronic commerce technology on the Internet, and was transmitted by the user is received, It connects with the electronic banking authentication system 1-7 via Internet communication network 1-5, and the request demand of the attestation is carried out at the electronic banking authentication system 1-7 for electronic commerce technology.

[0024]The electronic banking authentication system 1-7 receives each authentication request demand from two or more electronic-commerce-technology service provider devices 1-6, It has the function to perform attestation for electronic banking alone about a user, and functions as an authentication center intensively provided to two or more electronic-commerce-technology service providers.

[0025]The electronic banking authentication system 1-7 calls back a user's telephone terminal 1-2 via ISDN or the analog telephone network 1-3, Secrecy information, including a credit card number etc., is received via ISDN or the analog telephone network 1-3 from a user, The authentication center device 1-7 is connected to the credit card transaction system 1-9 via a dedicated line or the packet exchange network 1-8, While notifying the credit card number etc. which were received from the user to the credit card transaction system 1-9, the inquiry about the payment by the credit card number is performed, and it has a function which transmits the result to the electronic-commerce-technology service provider device 1-6.

[0026]The credit card transaction system 1-9 is installed in a credit card company etc., Based on information, including the credit card number etc. which were notified from the electronic banking authentication system 1-7, and the amount information of electronic commerce technology, it checks [ which is depended on account draw down etc. ] paying for no trouble, and has a function which transmits the result to the electronic banking authentication system 1-7.

[0027]Thus, although transmission and reception of the data through ISDN or the analog telephone network 1-3, Internet communication network 1-5 and a dedicated line, or the packet exchange network 1-8 perform electronic banking attestation by this invention, Among these, simple Internet communication network 1-5 of operation is used for transmission and reception of the low information on privacy at transmission and reception of the high information on privacy using ISDN or the analog telephone network 1-3 and a dedicated line, or the packet exchange network 1-8. The above-mentioned packet exchange network may be a digital data exchange.

[0028]Drawing 2 is a figure showing the principal part of the electronic banking authentication system of this invention. The switchboard part 2-3 provided with the subscriber database storage parts store 2-1 and the announcement machine 2-2 with which the electronic banking authentication system 2-10 holds a user's etc. subscriber information, It comprises the communication terminal part 2-5 provided with the transaction database storage parts store 2-4 of electronic commerce technology which carries out order data maintenance.

[0029]The switchboard part 2-3 calls back the user terminal 2-7 via ISDN or the analog telephone network 2-6, the announcement machine 2-2 — information (a user identifier.) required for the amount billed and electronic banking The guidance which stimulates sending out of a credit card number etc. is sent out by synthesized speech, and it has the function to receive information required for electronic banking including the secrecy information, including a credit card number etc., transmitted by the PB signal etc. from the user terminal 2-7.

[0030>About the credit card number etc. which were received, the switchboard part 2-3 performs a notice and an inquiry to the credit card transaction system 2-9 via a dedicated line or the packet exchange network 2-8, and has a function which receives the answer result and is sent out to the communication terminal part 2-5.

[0031]The communication terminal part 2-5 will transmit to the electronic-commerce-technology service provider (CSP) 2-12 via Internet communication network 2-11, if it is connected with the switchboard part 2-3 and the answer result from the credit card transaction

system 2-9 is received from the switchboard part 2-3.

[0032] Thus, it is connected to ISDN or the analog telephone network 2-6 and a dedicated line, or the packet exchange network 2-8, and the high information on privacy is sent [ the switchboard part 2-3 ] and received via ISDN, the analog telephone network 2-6, a dedicated line, or the packet exchange network 2-8.

[0033] It is connected to Internet communication network 2-11, and the communication terminal part 2-5 sends and receives the low information on privacy via Internet communication network 2-11. What has a safety control enough since Internet communication goes via many and unspecified Internet Service Providers as this reason was mentioned above to the maintenance of secret of communication information is because it is hard to say.

[0034] Since it is connected with a direct communication partner's transceiving equipment, information is sent and received and any third parties other than a communications partner do not intervene, there are few dangers that communication information will flow out, and the communication which, on the other hand, passed only ISDN, the analog telephone network, packet exchange network, or dedicated line which is a public network has the high degree of safe.

[0035] By therefore, the electronic banking authentication system which installed the authentication center where only [ which deals with the communication information as which maintenance-of-secret strict observance is required in electronic-commerce-technology service ], or a small number was restricted, and was furnished to this authentication center. By considering secrecy information as the composition which carries out central control unitary, by having composition which uses a communications network properly according to the privacy of the information sent and received, this electronic banking authentication system can prevent decentralization and tapping of confidential information, and can build the reliable system to confidential information.

[0036] Drawing 3 is a functional block diagram of the electronic banking authentication system of this invention. As for the data communication part of a switchboard part, and 3-13, in the figure, a switchboard part and 3-11 are [ a service control part and 3-15 ] subscriber database storage parts stores the input output section of a switchboard part, and 3-14 CPU of this switchboard part, and 3-12 3-1.

[0037] 3-2 a communication terminal part and 3-21 CPU of this communication terminal part, and 3-22 The data communication part of a communication terminal part, It is a transaction database storage parts store in which the input output section of a 3-23 communication-terminal part and 3-24 hold a WWW (Word Wide Web) database storage parts store, and 3-25 holds order data.

[0038] The data communication part 3-12 of a switchboard part calls back a user's telephone terminal via ISDN or an analog telephone network, Information, including a credit card number etc., is received and a notice and an inquiry are performed to a credit card transaction system via a dedicated line or a packet exchange network about information, including the credit card number etc. which were received. It is connected to the input output section 3-23 of a communication terminal part, and mutual, and the input output section 3-13 of a switchboard part has the data communications between the switchboard part 3-1 and the communication terminal part 3-2, and a data conversion feature for it.

[0039] The data communication part 3-22 of a communication terminal part is connected to an Internet communication network, The order data of the electronic commerce technology by the Internet is received from an electronic-commerce-technology service provider, and the inquiry result information from a credit card transaction system, etc. are transmitted to an electronic-commerce-technology service provider.

[0040] The subscriber database storage parts store 3-15 of a switchboard part memorizes as a database the subscriber information about each user who had the registry request beforehand, an electronic-commerce-technology service provider, and a credit card company. Therefore, although the user who demands electronic commerce technology needs to register subscriber information beforehand only to the subscriber database storage parts store 3-15 of this electronic banking authentication system, In order that it may perform properly the call-back from an electronic banking authentication system, it is the minimum information for managing the



transaction data of electronic commerce technology, and there is no registering-beforehand-secrecy information, including credit card number etc., necessity.

[0041]The WWW database storage parts store 3-24 of a communication terminal part, Memorizing [ and ] the database for the web pages of the Internet, the transaction database storage parts store 3-25 holds transaction data, such as order data sent and received between the user and the electronic-commerce-technology service provider.

[0042]Drawing 4 is a figure showing the contents of the database storage parts store of the electronic banking authentication system of this invention. (B of (A) of a figure) of a subscriber database and a figure is a transaction database between a user and an electronic-commerce-technology service provider.

[0043]The subscriber database of (A) of a figure memorizes the subscriber information in the form of a table for every user, electronic-commerce-technology service provider, and credit card company. About a user, they are memorized by a user identifier (ID), a name, an address, a telephone number, service state, etc., and about an electronic-commerce-technology service provider. They are memorized by an electronic-commerce-technology service provider identifier (service ID), a company name, an address, a telephone number, service state, etc., and about a credit card company. Subscriber information, such as a credit card company identifier (credit ID), a company name, other addresses that omitted the graphic display, a telephone number, and a service state, is memorized.

[0044]a subscriber database carries out the hold stores of each user's circuit class and class of service (for example, an ISDN circuit or an analog telephone line — moreover — subscriber's line in which call waiting (call waiting) service is possible \*\*\*\*\* — etc. — data).

[0045]The transaction database of (B) of a figure, A transaction identifier (ID), an authentication result, a credit card company identifier (credit ID), a user identifier (ID), an electronic-commerce-technology service provider identifier (service ID), a trade name, the number, a price, etc. are memorized in the form of a table.

[0046]Drawing 5 thru/or drawing 7 are the explanatory views of the communication procedure of electronic-commerce-technology service of this invention. As first shown in \*\* of drawing 5, a user using the information-machines-and-equipment terminal 5-1 by an Internet connectivity. The order data about purchasing commodities, such as user ID, a trade name, and the number, is transmitted to the database section of WWW server 5-2 of an electronic-commerce-technology service provider (CSP) via an Internet Service Provider (ISP).

[0047]Next, as shown in \*\* of drawing 6, WWW server 6-1 of an electronic-commerce-technology service provider transmits the data of service ID, user ID, a trade name, the number, a price, etc. to the database section of the electronic banking authentication system 6-2 by an Internet connectivity.

[0048]The electronic banking authentication system 6-2 (in drawing 5, it is 5-3). The circuit class and class of service are searched from a subscriber database based on user ID. As shown in \*\* of drawing 5, a user's telephone terminal 5-4 is called back by public network connection, and a user transmits user ID and a credit card number from the telephone terminal 5-4, as shown in \*\* of drawing 5.

[0049]When user-terminal 5-1,5-4 is connected by the ISDN circuit, here, Since the user used two circuits independently, connection has been maintained without cutting the Internet connectivity circuit of the above-mentioned \*\*. It can answer with the telephone terminal 5-4 to the call-back from the electronic banking authentication system 5-3 to another circuit, and subsequent authentication service can be received.

[0050]When user-terminal 5-1,5-4 is connected by the analog telephone line, a user once cuts the Internet connectivity of the above-mentioned \*\*, and the electronic banking authentication system 5-3 waits for cutting of this Internet connectivity, and performs the queuing call which calls a user's telephone terminal 5-4.

[0051]Although the user of an analog telephone line makes it wait each other from the electronic banking authentication system 5-3, a call is answered and user ID and a credit card number are transmitted from the telephone terminal 5-4, the E-mail through the Internet will receive subsequent authentication service.

[0052]When the circuit to which user-terminal 5-1,5-4 was connected is an ISDN circuit and another circuit mentioned above is busy, The electronic banking authentication system 5-3 waits for cutting of the circuit of the Internet connectivity of the aforementioned \*\*, or another circuit, and performs the queuing call which calls back a user's telephone terminal 5-4.

[0053]When a user is a class of service which can receive a call waiting call (call waiting), It has maintained without the above-mentioned's having made it wait for the electronic banking authentication system 5-3 mutually, having performed the call waiting call instead of the call, and cutting the Internet connectivity circuit of the above-mentioned \*\*. The call-back from the electronic banking authentication system 5-3 can be answered, and it can have composition which receives subsequent authentication service.

[0054]Next, as shown in \*\* of drawing 7, the electronic banking authentication system 7-1 transmits the data of transaction ID, user ID, a credit card number, a trade name, the number, etc. to credit card transaction System 7-2 via leased line connection or a packet exchange network.

[0055]Credit card transaction System 7-2 transmits the data of service ID, user ID, an authentication result, etc. to the electronic banking authentication system 7-1 via leased line connection or a packet exchange network, as shown in \*\* of drawing 7.

[0056]Next, as shown in \*\* of drawing 6, the electronic banking authentication system 6-2 transmits the data of transaction ID, user ID, an authentication result, credit card company ID, etc. to WWW server 6-1 of an electronic-commerce-technology service provider via an Internet connectivity. It may be made for the electronic banking authentication system 6-2 (in drawing 5, it is 5-3) to announce an authentication result with a sound via a public network to a user's telephone terminal 5-4 simultaneously with this, as shown in \*\*' of drawing 5.

[0057]As finally shown in \*\* of drawing 5, the detailed information and receipt of order data of electronic commerce technology are published with transaction ID via the Internet from WWW server 5-2 of an electronic-commerce-technology service provider. Therefore, the user can check the detailed contents which include the authentication result of electronic commerce technology on the screen of a WWW browser promptly.

[0058]Next, the electronic banking authentication system of this invention and the operation flow of an electronic-commerce-technology service provider device are explained with drawing 8 and drawing 9. Drawing 8 is a flow chart of operation of the electronic-commerce-technology service provider device of this invention. Drawing 9 is a flow chart of operation of the electronic banking authentication system of this invention.

[0059]In Step 8-1 which shows drawing 8 an electronic-commerce-technology service provider device, In [ when it comes to the start state of electronic-commerce-technology service of the Internet ] Step 8-2, Merchandise purchase aiding pictures are displayed by a Web server, and in Step 8-3, if the basic information input of electronic commerce technology, such as user ID from a user, a telephone number, and a trade name of choice, is inputted into waiting and this basic information, in Step 8-4, basic information will be transmitted to an electronic banking authentication system.

[0060]If basic information is received in Step 9-1 shown in drawing 9, an electronic banking authentication system, It is investigated whether in Step 9-2, this user ID exists in a subscriber database storage parts store, If it exists, the telephone number of this user ID will be searched in Step 9-3, in Step 9-4, this user's circuit investigates an ISDN circuit or an analog telephone line, and if it is an ISDN circuit, in Step 9-5, it calls back with a registered telephone number.

[0061]If a user's circuit is an analog telephone line, the queuing call or call waiting (call waiting) call which waits for and calls a busy end in Step 9-6 will be performed. On the other hand, when are called back in the above-mentioned step 9-5 to the user of an ISDN circuit and it is during the conversation (busy), the queuing call or call waiting (call waiting) call which waits for and calls a busy end similarly in Step 9-6 is performed.

[0062]If a user's response to a call-back is detected in Step 9-7, guidance with a sound will be announced in Step 9-8, and it will wait for the input of secrecy information, including a credit card number etc., in Step 9-9. If secrecy information, including a credit card number etc., is inputted, in Step 9-10, secrecy information and transaction ID, such as a credit card number, will

be transmitted to a credit card transaction system (credit company), and the authentication result will be received from a credit card transaction system.

[0063]If an authentication result is received from a credit card transaction system, in Step 9-11, the authentication result of transaction ID and a credit card number will be transmitted to an electronic-commerce-technology service provider device. When user ID does not exist in the above-mentioned step 9-2, the message which refuses the contents of reception in Step 9-12 is generated, and the message is transmitted to an electronic-commerce-technology service provider device by Step 9-11.

[0064]If an electronic-commerce-technology service provider device receives an authentication result from an electronic banking authentication system, The normality of an authentication result is judged in Step 8-5 shown in drawing 8, and if normal, a screen display of ending [ which shows an authentication result to a user terminal in Step 8-6 ] with credit card attestation, and receipt issue, and the screen of transaction ID will be displayed, and it will end.

[0065]When an authentication result is abnormal in the judgment of the above-mentioned step 8-5, in Step 8-7, the screen for which credit card attestation is improper is displayed, and it returns to the above-mentioned start step 8-1 in Step 8-8.

[0066]Drawing 10 is a sequence chart of signal transmission and reception of electronic-commerce-technology service of this invention. In the figure, an Internet Service Provider and CSP of the subscriber exchange and ISP in which LS has accommodated the user are electronic-commerce-technology service providers.

[0067]It is connected via subscriber exchange (LS) by the ISDN circuit or analog telephone line which is a public network between a user and an Internet Service Provider (ISP) and between the authentication center and user having an electronic banking authentication system.

[0068]It is connected by the Internet between an Internet Service Provider (ISP) and an electronic-commerce-technology service provider (CSP), and is connected by a dedicated line or the packet exchange network between an authentication center and the credit card company provided with the credit card transaction system.

[0069]A user emits the call to an Internet Service Provider (ISP) to subscriber exchange (LS) (10-1), A user and an Internet Service Provider (ISP) are connected (10-2), and a user and an electronic-commerce-technology service provider (CSP) are connected via this user and an Internet Service Provider (ISP) (10-3).

[0070]A user transmits transaction information, such as user ID and a trade name, to an electronic-commerce-technology service provider (CSP) (10-4), and an electronic-commerce-technology service provider (CSP) transmits those information to an authentication center (10-5).

[0071]An authentication center finds out a user's telephone number (TEL#) with a database from user ID (10-6), and transmits transaction ID to an electronic-commerce-technology service provider (CSP) (10-7).

[0072]Since this transaction ID is transmitted to a user (10-8) and an authentication center calls back subscriber exchange (LS) in this user, call origination of the electronic-commerce-technology service provider (CSP) is carried out (10-9).

[0073]It is connected via a public network between an authentication center and a user (10-10), Sending out an announcement so that an authentication center may input secrecy information, including credit card information etc., (10-11) a user inputs secrecy information, including transaction ID, user ID, credit card information, etc., with a telephone terminal (10-12).

[0074]An authentication center registers into a database temporarily the secrecy information inputted by the telephone terminal (10-13), and cuts connection through the public network between users (10-14). An authentication center transmits secrecy information, including the credit card information etc. which were further inputted by the telephone terminal, to a credit card company, and is asked (10-15), and a credit card company transmits authentication results, such as this credit card information, to an authentication center (10-16).

[0075]An authentication center transmits this authentication result to an electronic-commerce-technology service provider (CSP) (10-17), An electronic-commerce-technology service provider (CSP) transmits an attested [ credit card ] check certificate and a receipt with

transaction ID based on this authentication result (10-18), A user logs out in response to it, and demands cutting of connection with an Internet Service Provider (ISP) (10-19).

[0076]Subscriber exchange (LS) cuts the connection which passed the public network by the disconnect request from a user (10-20). An electronic-commerce-technology service provider (CSP) will ask a credit card company for the commodity price by this electronic commerce technology, and a credit card company will ask a user for the price.

[0077]

[Effect of the Invention]As explained above, according to this invention, secrecy information, including a credit card number etc., is directly transmitted only to an electronic banking authentication system via a public network from a user. By carrying out central control of the secrecy information, including this credit card number, to a credit card transaction system directly in question of 1 yuan in all by a dedicated line etc., this electronic banking authentication system, Secrecy information, including credit card information etc., is not sent and received on the Internet. Since it is not necessary to raise the safety on the management to the outflow of secrecy information, etc. and the user does not need to register credit card information etc. into each electronic-commerce-technology service provider beforehand, There is an advantage which can use on-line shopping isoelectronic commercial transaction service immediately by simple operation.

[0078]In order that an electronic banking authentication system may perform identification of the person himself/herself by calling back an electronic-commerce-technology service user based on the subscriber information memorized by the database storage parts store, an electronic-commerce-technology service provider side and the user side -- the person himself/herself -- necessity of the special authentication device for identification cannot be carried out, but simple composition can perform identification of the person himself/herself, and trouble occurrences, such as an unjust request for the fee by a user's wrongful act etc., can be prevented.

[0079]Since the validity of a user's credit card is notified from an electronic banking authentication system, the electronic-commerce-technology service provider device does not need to perform maintenance of a user's credit card information, and management, and can constitute a system simply.

[0080]The transaction data about the electronic commerce technology exchanged between the user and the electronic-commerce-technology service provider by attaching and managing an identifier in an electronic banking authentication system, A series of commo data of transmission and reception of electronic commerce data and secrecy information can be managed unitary in this electronic banking authentication system, the confirmation work at the time of generating of troubles, such as a wrong request, can become easy, and electronic-commerce-technology service reliability can be raised.

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**TECHNICAL FIELD**

[Field of the Invention]This invention relates to the electronic banking authentication system and electronic-commerce-technology service provider devices in electronic commerce technology, such as on-line shopping by the Internet.

[0002]The commercial on line service by the Internet spreads in recent years, and the opportunity for the individual secrecy information for electronic banking to be transmitted and received on the Internet is increasing. The individual secrecy information sent and received for electronic banking is protected safely, and construction of the system which can perform quick and simple electronic banking is demanded as use of the electronic commerce technology by such a commercial on line service increases.

[0003]In on-line shopping, virtual Mall shopping, etc. by the Internet, for the user side, It is a system by which the secrecy information which secrecy information, including a credit card number etc., was safely transmitted, and was transmitted is not misused by revealing, For the electronic-commerce-technology service provider side, It is important that the user who accessed electronic-commerce-technology service is the genuine person himself/herself of a commercial transaction, and it is a system by which the corroboration that there is no trouble in the payment of the price by the credit card number information etc. which were transmitted by the user is obtained.

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[Translation done.]

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PRIOR ART

[Description of the Prior Art]When using the electronic-commerce-technology service by the Internet, transmission of secrecy information, including a credit card number etc., is required of a user in many cases at the time of the purchase of goods etc. Although the encoding technology and secret communication art of send data are used in transmission of secrecy information, under the present circumstances, the safety to secrecy information can never say that it is enough only with those art.

[0005]Because, since the information dispatch in the Internet goes via many and unspecified servers in which control machine Seki is not necessarily clear, there is a possibility that the surreptitious use improper use of the secrecy information may be carried out. Therefore, the following policies were conventionally taken about the treatment of secrecy information, including a credit card number etc., for example.

[0006]A user beforehand secrecy information, including a credit card number etc., one of them to each electronic-commerce-technology service provider side. It is the method of transmitting the order data and the user name of electronic commerce technology, and performing electronic commerce technology, without transmitting by the Internet and other means of communication, registering, and transmitting secrecy information, including a credit card number etc., at the time of the electronic-commerce-technology service use by the Internet.

[0007]However, by this method, when change is produced in a credit card number etc., that must be transmitted and notified to each registration destination electronic-commerce-technology service provider side. When merchandise purchase etc. are performed from two or more electronic-commerce-technology service providers, Since secrecy information, including a credit card number etc., must be registered, many parts distribute and secrecy information is kept to each electronic-commerce-technology service provider side, it is not desirable after the safety to maintenance of secret manages.

[0008]Other methods include the method of transmitting secrecy information, including a credit card number etc., to the electronic-commerce-technology service provider side with a facsimile image at the time of the electronic-commerce-technology service use by the Internet. However, in this method, the document in which the credit card number was written down is outputted to the facsimile machine by the side of an electronic-commerce-technology service provider, and if that storage management is unsuitable, since a hard copy etc. can be performed easily, a possibility that secrecy information may be used unjustly will arise.

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[Translation done.]

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## EFFECT OF THE INVENTION

[Effect of the Invention]As explained above, in this invention, secrecy information, including a credit card number etc., is directly transmitted only to an electronic banking authentication system via a public network from a user. This electronic banking authentication system carries out central control of the secrecy information, including this credit card number, to a credit card transaction system directly in question of 1 yuan in all by a dedicated line etc.

Therefore, secrecy information, including credit card information etc., is not sent and received on the Internet. Since it is not necessary to raise the safety on the management to the outflow of secrecy information, etc. and the user does not need to register credit card information etc. into each electronic-commerce-technology service provider beforehand, There is an advantage which can use on-line shopping isoelectronic commercial transaction service immediately by simple operation.

[0078]In order that an electronic banking authentication system may perform identification of the person himself/herself by calling back an electronic-commerce-technology service user based on the subscriber information memorized by the database storage parts store, an electronic-commerce-technology service provider side and the user side -- the person himself/herself -- necessity of the special authentication device for identification cannot be carried out, but simple composition can perform identification of the person himself/herself, and trouble occurrences, such as an unjust request for the fee by a user's wrongful act etc., can be prevented.

[0079]Since the validity of a user's credit card is notified from an electronic banking authentication system, the electronic-commerce-technology service provider device does not need to perform maintenance of a user's credit card information, and management, and can constitute a system simply.

[0080]The transaction data about the electronic commerce technology exchanged between the user and the electronic-commerce-technology service provider by attaching and managing an identifier in an electronic banking authentication system, A series of commo data of transmission and reception of electronic commerce data and secrecy information can be managed unitary in this electronic banking authentication system, the confirmation work at the time of generating of troubles, such as a wrong request, can become easy, and electronic-commerce-technology service reliability can be raised.

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**TECHNICAL PROBLEM**

[Problem(s) to be Solved by the Invention]In electronic commerce technology, such as on-line shopping service by the Internet, a user transmits and purchases a credit card number etc. to finish settlement of a commodity price simple. However, in electronic-commerce-technology service to transmission of the secrecy information which went via the Internet, the measure against security is not thoroughgoing, and according to the Internet, The confirmation work of the electronic commerce data to trouble occurrences, such as an unjust claim by the multiplex claim by the procedure mistake by the side of an electronic-commerce-technology service provider, other users' wrongful act, etc., became complicated.

[0010]When a user uses several different electronic-commerce-technology service providers, It is necessary to register information, including a credit card number etc., for every electronic-commerce-technology service provider conventionally. The electronic-commerce-technology service from the electronic-commerce-technology service provider which unified management of secrecy information cannot be performed and has not registered credit card number information etc. a priori could not be used, but was inconvenience.

[0011]In the electronic-commerce-technology service by the Internet, this invention prevents disclosure of secrecy information, including a credit card number etc., It aims at providing the electronic banking authentication system which can perform electronic commerce technology simple and safely without being able to perform maintenance and a check of electronic commerce data, and the user registering secrecy information, including a credit card number etc., beforehand, and an electronic-commerce-technology service provider device.

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MEANS

[Means for Solving the Problem]An electronic banking authentication system of this invention sends and receives data of electronic commerce technology via the Internet between (1) user terminal and an electronic-commerce-technology service provider device, In an electronic banking authentication system for electronic commerce technology which settles payment of this electronic commerce technology by a credit card transaction system, this electronic banking authentication system, If data of electronic commerce technology containing a user identifier is received from said electronic-commerce-technology service provider device, A means which calls back a user terminal via a public network based on this user identifier, and carries out direct reception of the secrecy information of a user for electronic banking via this public network from a user terminal, A means to transmit secrecy information of a this user who received to a credit card transaction system, and to receive authentication result data about this user's secrecy information from a credit card transaction system, It has a means to transmit this authentication result data to said electronic-commerce-technology service provider device.

[0013](2) — said electronic banking authentication system is provided with composition which sends and receives information via a public network of said user terminal, an ISDN circuit, or an analog telephone line, and sends and receives information data via said credit card transaction system, a dedicated line, or a digital data exchange.

[0014](3) — said electronic banking authentication system with a subscriber database storage parts store which memorizes subscriber information of a user who registered with this electronic banking authentication system beforehand, and an electronic-commerce-technology service provider. It has a transaction database storage parts store which memorizes order data of electronic commerce technology sent and received between a user terminal and an electronic-commerce-technology service provider device.

[0015](4) — a subscriber database storage parts store of said electronic banking authentication system, It has the composition which assigns and memorizes a respectively peculiar user identifier and an electronic-commerce-technology service provider identifier to each user and each electronic-commerce-technology service provider, Said electronic banking authentication system has the composition which reads subscriber information of a user or an electronic-commerce-technology service provider from said subscriber database storage parts store by using those identifiers as a master key.

[0016](5) — a transaction database storage parts store of said electronic banking authentication system, Have the composition which assigns and memorizes a transaction identifier respectively peculiar to order data of each electronic commerce technology, and said electronic banking authentication system, It has a means to notify this transaction identifier to said credit card transaction system and said electronic-commerce-technology service provider device.

[0017](6) — said electronic banking authentication system this user's telephone number from a subscriber database storage parts store based on a user identifier transmitted from an electronic-commerce-technology service provider device, [ search and ] It has a means to send out an announcement including a means to call back a user via a public network by this telephone number, and guidance which stimulates transmission of secrecy information of a user required for electronic banking, and a means which carries out reception maintenance of the

secrecy information transmitted from a user terminal.

[0018](7) — said electronic banking authentication system a means to recognize whether a circuit to which a user terminal was connected is an ISDN circuit, or it is an analog telephone line based on data of said subscriber database storage parts store, [ provide with and ] A means to call back said user terminal, When a circuit to which said user terminal was connected is an ISDN circuit, face a user terminal calling back, and when a circuit of said user terminal is busy, A queuing call or a call waiting call which waits for and calls a busy end is performed, When a circuit to which said user terminal was connected is an analog telephone line, it has the composition which performs a queuing call or a call waiting call which waits for and calls an end of an Internet connectivity of said user terminal.

[0019]An electronic-commerce-technology service provider device of this invention is characterized by comprising:

(8) A means to provide a user terminal with a display screen for electronic commerce technology via the Internet, and to receive order data of electronic commerce technology with a user identifier from a user terminal.

A means to transmit this user identifier and order data of electronic commerce technology to an electronic banking authentication system via the Internet.

A means to receive said user identifier and authentication result information about said electronic commerce technology from said electronic banking authentication system.

A means to transmit a transaction identifier of order data of said electronic commerce technology for this authentication result information to said user terminal.

[0020]

[Embodiment of the Invention]Drawing 1 is an explanatory view of the electronic-commerce-technology service system of this invention. In the figure, a user's information-machines-and-equipment terminal and 1-2 1-1 The user's telephone terminal, ISDN or an analog telephone network, and 1-4 1-3 An Internet Service Provider device, As for an electronic-commerce-technology service provider device and 1-7, 1-5 is [ a dedicated line or a packet exchange network, and 1-9 ] credit card transaction systems an electronic banking authentication system and 1-8 an Internet communication network and 1-6.

[0021]The information-machines-and-equipment terminals 1-1 of a user's house are information processors, such as a personal computer, and are connected to ISDN or the analog telephone network 1-3 with the user's telephone terminal 1-2. Here, the information-machines-and-equipment terminal 1-1 and telephone terminal of a user's house constitute a user terminal.

[0022]It is connected to the Internet Service Provider device 1-4 via ISDN or the analog telephone network 1-3, and connects with the electronic-commerce-technology service provider device 1-6 via Internet communication network 1-5, and a user's information-machines-and-equipment terminal 1-1 transmits the data for electronic commerce technology.

[0023]The electronic-commerce-technology service provider device 1-6, If the order data for the electronic commerce technology which provided the web page (homepage) for electronic commerce technology on the Internet, and was transmitted by the user is received, It connects with the electronic banking authentication system 1-7 via Internet communication network 1-5, and the request demand of the attestation is carried out at the electronic banking authentication system 1-7 for electronic commerce technology.

[0024]The electronic banking authentication system 1-7 receives each authentication request demand from two or more electronic-commerce-technology service provider devices 1-6, It has the function to perform attestation for electronic banking alone about a user, and functions as an authentication center intensively provided to two or more electronic-commerce-technology service providers.

[0025]The electronic banking authentication system 1-7 calls back a user's telephone terminal 1-2 via ISDN or the analog telephone network 1-3, Secrecy information, including a credit card number etc., is received via ISDN or the analog telephone network 1-3 from a user, The authentication center device 1-7 is connected to the credit card transaction system 1-9 via a dedicated line or the packet exchange network 1-8, While notifying the credit card number etc.

which were received from the user to the credit card transaction system 1-9, the inquiry about the payment by the credit card number is performed, and it has a function which transmits the result to the electronic-commerce-technology service provider device 1-6.

[0026]The credit card transaction system 1-9 is installed in a credit card company etc., Based on information, including the credit card number etc. which were notified from the electronic banking authentication system 1-7, and the amount information of electronic commerce technology, it checks [ which is depended on account draw down etc. ] paying for no trouble, and has a function which transmits the result to the electronic banking authentication system 1-7.

[0027]Thus, although transmission and reception of the data through ISDN or the analog telephone network 1-3, Internet communication network 1-5 and a dedicated line, or the packet exchange network 1-8 perform electronic banking attestation by this invention, Among these, simple Internet communication network 1-5 of operation is used for transmission and reception of the low information on privacy at transmission and reception of the high information on privacy using ISDN or the analog telephone network 1-3 and a dedicated line, or the packet exchange network 1-8. The above-mentioned packet exchange network may be a digital data exchange.

[0028]Drawing 2 is a figure showing the principal part of the electronic banking authentication system of this invention. The switchboard part 2-3 provided with the subscriber database storage parts store 2-1 and the announcement machine 2-2 with which the electronic banking authentication system 2-10 holds a user's etc. subscriber information, It comprises the communication terminal part 2-5 provided with the transaction database storage parts store 2-4 of electronic commerce technology which carries out order data maintenance.

[0029]The switchboard part 2-3 calls back the user terminal 2-7 via ISDN or the analog telephone network 2-6, the announcement machine 2-2 — information (a user identifier.) required for the amount billed and electronic banking The guidance which stimulates sending out of a credit card number etc. is sent out by synthesized speech, and it has the function to receive information required for electronic banking including the secrecy information, including a credit card number etc., transmitted by the PB signal etc. from the user terminal 2-7.

[0030>About the credit card number etc. which were received, the switchboard part 2-3 performs a notice and an inquiry to the credit card transaction system 2-9 via a dedicated line or the packet exchange network 2-8, and has a function which receives the answer result and is sent out to the communication terminal part 2-5.

[0031]The communication terminal part 2-5 will transmit to the electronic-commerce-technology service provider (CSP) 2-12 via Internet communication network 2-11, if it is connected with the switchboard part 2-3 and the answer result from the credit card transaction system 2-9 is received from the switchboard part 2-3.

[0032]Thus, it is connected to ISDN or the analog telephone network 2-6 and a dedicated line, or the packet exchange network 2-8, and the high information on privacy is sent [ the switchboard part 2-3 ] and received via ISDN, the analog telephone network 2-6, a dedicated line, or the packet exchange network 2-8.

[0033]It is connected to Internet communication network 2-11, and the communication terminal part 2-5 sends and receives the low information on privacy via Internet communication network 2-11. What has a safety control enough since Internet communication goes via many and unspecified Internet Service Providers as this reason was mentioned above to the maintenance of secret of communication information is because it is hard to say.

[0034]Since it is connected with a direct communication partner's transceiving equipment, information is sent and received and any third parties other than a communications partner do not intervene, there are few dangers that communication information will flow out, and the communication which, on the other hand, passed only ISDN, the analog telephone network, packet exchange network, or dedicated line which is a public network has the high degree of safe.

[0035]By therefore, the electronic banking authentication system which installed the authentication center where only [ which deals with the communication information as which maintenance-of-secret strict observance is required in electronic-commerce-technology

service ], or a small number was restricted, and was furnished to this authentication center. By considering secrecy information as the composition which carries out central control unitary, by having composition which uses a communications network properly according to the privacy of the information sent and received, this electronic banking authentication system can prevent decentralization and tapping of confidential information, and can build the reliable system to confidential information.

[0036] Drawing 3 is a functional block diagram of the electronic banking authentication system of this invention. As for the data communication part of a switchboard part, and 3-13, in the figure, a switchboard part and 3-11 are [ a service control part and 3-15 ] subscriber database storage parts stores the input output section of a switchboard part, and 3-14 CPU of this switchboard part, and 3-12 3-1.

[0037] 3-2 a communication terminal part and 3-21 CPU of this communication terminal part, and 3-22 The data communication part of a communication terminal part, It is a transaction database storage parts store in which the input output section of a 3-23 communication-terminal part and 3-24 hold a WWW (Word Wide Web) database storage parts store, and 3-25 holds order data.

[0038] The data communication part 3-12 of a switchboard part calls back a user's telephone terminal via ISDN or an analog telephone network, Information, including a credit card number etc., is received and a notice and an inquiry are performed to a credit card transaction system via a dedicated line or a packet exchange network about information, including the credit card number etc. which were received. It is connected to the input output section 3-23 of a communication terminal part, and mutual, and the input output section 3-13 of a switchboard part has the data communications between the switchboard part 3-1 and the communication terminal part 3-2, and a data conversion feature for it.

[0039] The data communication part 3-22 of a communication terminal part is connected to an Internet communication network, The order data of the electronic commerce technology by the Internet is received from an electronic-commerce-technology service provider, and the inquiry result information from a credit card transaction system, etc. are transmitted to an electronic-commerce-technology service provider.

[0040] The subscriber database storage parts store 3-15 of a switchboard part memorizes as a database the subscriber information about each user who had the registry request beforehand, an electronic-commerce-technology service provider, and a credit card company. Therefore, although the user who demands electronic commerce technology needs to register subscriber information beforehand only to the subscriber database storage parts store 3-15 of this electronic banking authentication system, In order that it may perform properly the call-back from an electronic banking authentication system, it is the minimum information for managing the transaction data of electronic commerce technology, and there is no registering-beforehand-secrecy information, including credit card number etc., necessity.

[0041] The WWW database storage parts store 3-24 of a communication terminal part, Memorizing [ and ] the database for the web pages of the Internet, the transaction database storage parts store 3-25 holds transaction data, such as order data sent and received between the user and the electronic-commerce-technology service provider.

[0042] Drawing 4 is a figure showing the contents of the database storage parts store of the electronic banking authentication system of this invention. (B of (A) of a figure) of a subscriber database and a figure is a transaction database between a user and an electronic-commerce-technology service provider.

[0043] The subscriber database of (A) of a figure memorizes the subscriber information in the form of a table for every user, electronic-commerce-technology service provider, and credit card company. About a user, they are memorized by a user identifier (ID), a name, an address, a telephone number, service state, etc., and about an electronic-commerce-technology service provider. They are memorized by an electronic-commerce-technology service provider identifier (service ID), a company name, an address, a telephone number, service state, etc., and about a credit card company. Subscriber information, such as a credit card company identifier (credit ID), a company name, other addresses that omitted the graphic display, a telephone number, and a service state, is memorized.

[0044]a subscriber database carries out the hold stores of each user's circuit class and class of service (for example, an ISDN circuit or an analog telephone line -- moreover -- subscriber's line in which call waiting (call waiting) service is possible \*\*\*\*\* -- etc. -- data).

[0045]The transaction database of (B) of a figure, A transaction identifier (ID), an authentication result, a credit card company identifier (credit ID), a user identifier (ID), an electronic-commerce-technology service provider identifier (service ID), a trade name, the number, a price, etc. are memorized in the form of a table.

[0046]Drawing 5 thru/or drawing 7 are the explanatory views of the communication procedure of electronic-commerce-technology service of this invention. As first shown in \*\* of drawing 5, a user using the information-machines-and-equipment terminal 5-1 by an Internet connectivity. The order data about purchasing commodities, such as user ID, a trade name, and the number, is transmitted to the database section of WWW server 5-2 of an electronic-commerce-technology service provider (CSP) via an Internet Service Provider (ISP).

[0047]Next, as shown in \*\* of drawing 6, WWW server 6-1 of an electronic-commerce-technology service provider transmits the data of service ID, user ID, a trade name, the number, a price, etc. to the database section of the electronic banking authentication system 6-2 by an Internet connectivity.

[0048]The electronic banking authentication system 6-2 (in drawing 5, it is 5-3), The circuit class and class of service are searched from a subscriber database based on user ID, As shown in \*\* of drawing 5, a user's telephone terminal 5-4 is called back by public network connection, and a user transmits user ID and a credit card number from the telephone terminal 5-4, as shown in \*\* of drawing 5.

[0049]When user-terminal 5-1,5-4 is connected by the ISDN circuit, here, Since the user used two circuits independently, connection has been maintained without cutting the Internet connectivity circuit of the above-mentioned \*\*. It can answer with the telephone terminal 5-4 to the call-back from the electronic banking authentication system 5-3 to another circuit, and subsequent authentication service can be received.

[0050]When user-terminal 5-1,5-4 is connected by the analog telephone line, a user once cuts the Internet connectivity of the above-mentioned \*\*, and the electronic banking authentication system 5-3 waits for cutting of this Internet connectivity, and performs the queuing call which calls a user's telephone terminal 5-4.

[0051]Although the user of an analog telephone line makes it wait each other from the electronic banking authentication system 5-3, a call is answered and user ID and a credit card number are transmitted from the telephone terminal 5-4, the E-mail through the Internet will receive subsequent authentication service.

[0052]When the circuit to which user-terminal 5-1,5-4 was connected is an ISDN circuit and another circuit mentioned above is busy, The electronic banking authentication system 5-3 waits for cutting of the circuit of the Internet connectivity of the aforementioned \*\*, or another circuit, and performs the queuing call which calls back a user's telephone terminal 5-4.

[0053]When a user is a class of service which can receive a call waiting call (call waiting), It has maintained without the above-mentioned's having made it wait for the electronic banking authentication system 5-3 mutually, having performed the call waiting call instead of the call, and cutting the Internet connectivity circuit of the above-mentioned \*\*. The call-back from the electronic banking authentication system 5-3 can be answered, and it can have composition which receives subsequent authentication service.

[0054]Next, as shown in \*\* of drawing 7, the electronic banking authentication system 7-1 transmits the data of transaction ID, user ID, a credit card number, a trade name, the number, etc. to credit card transaction System 7-2 via leased line connection or a packet exchange network.

[0055]Credit card transaction System 7-2 transmits the data of service ID, user ID, an authentication result, etc. to the electronic banking authentication system 7-1 via leased line connection or a packet exchange network, as shown in \*\* of drawing 7.

[0056]Next, as shown in \*\* of drawing 6, the electronic banking authentication system 6-2 transmits the data of transaction ID, user ID, an authentication result, credit card company ID,

etc. to WWW server 6-1 of an electronic-commerce-technology service provider via an Internet connectivity. It may be made for the electronic banking authentication system 6-2 (in drawing 5, it is 5-3) to announce an authentication result with a sound via a public network to a user's

telephone terminal 5-4 simultaneously with this, as shown in \*\*' of drawing 5.

[0057]As finally shown in \*\* of drawing 5, the detailed information and receipt of order data of electronic commerce technology are published with transaction ID via the Internet from WWW server 5-2 of an electronic-commerce-technology service provider. Therefore, the user can check the detailed contents which include the authentication result of electronic commerce technology on the screen of a WWW browser promptly.

[0058]Next, the electronic banking authentication system of this invention and the operation flow of an electronic-commerce-technology service provider device are explained with drawing 8 and drawing 9. Drawing 8 is a flow chart of operation of the electronic-commerce-technology service provider device of this invention. Drawing 9 is a flow chart of operation of the electronic banking authentication system of this invention.

[0059]In Step 8-1 which shows drawing 8 an electronic-commerce-technology service provider device, In [ when it comes to the start state of electronic-commerce-technology service of the Internet ] Step 8-2, Merchandise purchase aiding pictures are displayed by a Web server, and in Step 8-3, if the basic information input of electronic commerce technology, such as user ID from a user, a telephone number, and a trade name of choice, is inputted into waiting and this basic information, in Step 8-4, basic information will be transmitted to an electronic banking authentication system.

[0060]If basic information is received in Step 9-1 shown in drawing 9, an electronic banking authentication system, It is investigated whether in Step 9-2, this user ID exists in a subscriber database storage parts store. If it exists, the telephone number of this user ID will be searched in Step 9-3, in Step 9-4, this user's circuit investigates an ISDN circuit or an analog telephone line, and if it is an ISDN circuit, in Step 9-5, it calls back with a registered telephone number.

[0061]If a user's circuit is an analog telephone line, the queuing call or call waiting (call waiting) call which waits for and calls a busy end in Step 9-6 will be performed. On the other hand, when are called back in the above-mentioned step 9-5 to the user of an ISDN circuit and it is during the conversation (busy), the queuing call or call waiting (call waiting) call which waits for and calls a busy end similarly in Step 9-6 is performed.

[0062]If a user's response to a call-back is detected in Step 9-7, guidance with a sound will be announced in Step 9-8, and it will wait for the input of secrecy information, including a credit card number etc., in Step 9-9. If secrecy information, including a credit card number etc., is inputted, in Step 9-10, secrecy information and transaction ID, such as a credit card number, will be transmitted to a credit card transaction system (credit company), and the authentication result will be received from a credit card transaction system.

[0063]If an authentication result is received from a credit card transaction system, in Step 9-11, the authentication result of transaction ID and a credit card number will be transmitted to an electronic-commerce-technology service provider device. When user ID does not exist in the above-mentioned step 9-2, the message which refuses the contents of reception in Step 9-12 is generated, and the message is transmitted to an electronic-commerce-technology service provider device by Step 9-11.

[0064]If an electronic-commerce-technology service provider device receives an authentication result from an electronic banking authentication system, The normality of an authentication result is judged in Step 8-5 shown in drawing 8, and if normal, a screen display of ending [ which shows an authentication result to a user terminal in Step 8-6 ] with credit card attestation, and receipt issue, and the screen of transaction ID will be displayed, and it will end.

[0065]When an authentication result is abnormal in the judgment of the above-mentioned step 8-5, in Step 8-7, the screen for which credit card attestation is improper is displayed, and it returns to the above-mentioned start step 8-1 in Step 8-8.

[0066]Drawing 10 is a sequence chart of signal transmission and reception of electronic-commerce-technology service of this invention. In the figure, an Internet Service Provider and CSP of the subscriber exchange and ISP in which LS has accommodated the user are



electronic-commerce-technology service providers.

[0067]It is connected via subscriber exchange (LS) by the ISDN circuit or analog telephone line which is a public network between a user and an Internet Service Provider (ISP) and between the authentication center and user having an electronic banking authentication system.

[0068]It is connected by the Internet between an Internet Service Provider (ISP) and an electronic-commerce-technology service provider (CSP), and is connected by a dedicated line or the packet exchange network between an authentication center and the credit card company provided with the credit card transaction system.

[0069]A user emits the call to an Internet Service Provider (ISP) to subscriber exchange (LS) (10-1), A user and an Internet Service Provider (ISP) are connected (10-2), and a user and an electronic-commerce-technology service provider (CSP) are connected via this user and an Internet Service Provider (ISP) (10-3).

[0070]A user transmits transaction information, such as user ID and a trade name, to an electronic-commerce-technology service provider (CSP) (10-4), and an electronic-commerce-technology service provider (CSP) transmits those information to an authentication center (10-5).

[0071]An authentication center finds out a user's telephone number (TEL#) with a database from user ID (10-6), and transmits transaction ID to an electronic-commerce-technology service provider (CSP) (10-7).

[0072]Since this transaction ID is transmitted to a user (10-8) and an authentication center calls back subscriber exchange (LS) in this user, call origination of the electronic-commerce-technology service provider (CSP) is carried out (10-9).

[0073]It is connected via a public network between an authentication center and a user (10-10), Sending out an announcement so that an authentication center may input secrecy information, including credit card information etc., (10-11) a user inputs secrecy information, including transaction ID, user ID, credit card information, etc., with a telephone terminal (10-12).

[0074]An authentication center registers into a database temporarily the secrecy information inputted by the telephone terminal (10-13), and cuts connection through the public network between users (10-14). An authentication center transmits secrecy information, including the credit card information etc. which were further inputted by the telephone terminal, to a credit card company, and is asked (10-15), and a credit card company transmits authentication results, such as this credit card information, to an authentication center (10-16).

[0075]An authentication center transmits this authentication result to an electronic-commerce-technology service provider (CSP) (10-17), An electronic-commerce-technology service provider (CSP) transmits an attested [ credit card ] check certificate and a receipt with transaction ID based on this authentication result (10-18), A user logs out in response to it, and demands cutting of connection with an Internet Service Provider (ISP) (10-19).

[0076]Subscriber exchange (LS) cuts the connection which passed the public network by the disconnect request from a user (10-20). An electronic-commerce-technology service provider (CSP) will ask a credit card company for the commodity price by this electronic commerce technology, and a credit card company will ask a user for the price.

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[Translation done.]

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1]It is an explanatory view of the electronic-commerce-technology service system of this invention.

[Drawing 2]It is a figure showing the principal part of the electronic banking authentication system of this invention.

[Drawing 3]It is a functional block diagram of the electronic banking authentication system of this invention.

[Drawing 4]It is a figure showing the contents of the database storage parts store of the electronic banking authentication system of this invention.

[Drawing 5]It is an explanatory view of the communication procedure of electronic-commerce-technology service of this invention.

[Drawing 6]It is an explanatory view of the communication procedure of electronic-commerce-technology service of this invention.

[Drawing 7]It is an explanatory view of the communication procedure of electronic-commerce-technology service of this invention.

[Drawing 8]It is a flow chart of operation of the electronic-commerce-technology service provider device of this invention.

[Drawing 9]It is a flow chart of operation of the electronic banking authentication system of this invention.

[Drawing 10]It is a sequence chart of signal transmission and reception of electronic-commerce-technology service of this invention.

[Description of Notations]

- 1-1 A user's information-machines-and-equipment terminal
- 1-2 The user's telephone terminal
- 1-3 ISDN or an analog telephone network
- 1-4 Internet Service Provider device
- 1-5 Internet communication network
- 1-6 Electronic-commerce-technology service provider device
- 1-7 Electronic banking authentication system
- 1-8 A dedicated line or a packet exchange network
- 1-9 Credit card transaction system

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[Translation done.]